COMMUTER AIRLINE SAFETY

(100-52)

HEARING

BEFORE THE

SUBCOMMITTEE ON AVIATION

OF THE

COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION HOUSE OF REPRESENTATIVES

ONE HUNDREDTH CONGRESS

SECOND SESSION

APRIL 19, 1988

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Subcommittee on Aviation
Hearing on
Commuter Airline Safety
11:00 a.m.
Tuesday, April 19, 1988
2167 Rayburn House Office Building

SUMMARY OF SUBJECT MATTER

Overview of Commuter Airline Industry

The commuter airline industry is composed of the air carriers that operate turboprop aircraft with fewer than 60 seats in scheduled operations. In 1987, 164 commuter airlines carried approximately 27 million passengers on approximately 1,600 aircraft.

The commuter industry encompasses a very wide range of companies. For instance Air Wisconsin, the largest carrier in this class, carries over 2 million passengers a year in 20 large turbojet aircraft (BAE 146s and F-27s) as well as 6 Shorts SD3-60s smaller turboprop aircraft. Air Midwest, the 9th largest commuter, flies over 900,000 passengers annually in approximately 60 turboprop aircraft. At the same time, the commuter industry is also composed of much smaller operators such as Air Sunshine of Fort Lauderdale, Florida and Wilbur's Flight Operations of Anchorage, Alaska. The largest 10 commuters carry approximately one third of all the passengers, and the largest 50 carry approximately 90% of all commuter passengers.

The commuter industry has experienced rapid growth over the past 10 years. In 1978 the industry carried approximately 11 million passengers and has since grown at an average rate of 9% to the current level of approximately 27 million passengers. In 1978 there were 228 commuter carriers. This grew to 246 airlines in 1981, and has since receded to the current 164.

The commuter industry is forecast to continue growing. The FAA forecasts that by 1993 approximately 41 million passengers will fly on commuters and that by 1998 the level is expected to be 55 million. The proportion of commuter passengers to total airline passengers is expected to remain stable at around 6%-7%.

Airline Deregulation and the Commuter Industry

At the time of deregulation, Congress anticipated that the major carriers would rationalize their route systems, and in some

cases, would eliminate service in some small markets. The commuters were expected to fill these voids and to a large extent, they have. The number of airports served exclusively by commuters has climbed from 257 in 1978 to 349 in 1988. (When Alaskan points are included, the number of airports served exclusively by commuters climbed from 398 in 1978 to 561 in 1988.)

In the Airline Deregulation Act, the Congress also established the Essential Air service (EAS) program to guarantee that no community served by a certificated carrier at the time of deregulation would lose all of its air service. The EAS program provides a process whereby air service will be provided even if a Federal subsidy is required. Currently approximately 135 points receive this subsidized service at a current cost of $24.5 million per year. Congress recently enacted an authorization of the EAS program until 1998, beyond its original expiration date of October 1988. The changes in the program will raise the annual cost to approximately $40 million.

Beginning in 1984, the major airlines began entering into a marketing and computer reservation system designation code sharing arrangements with the commuter airlines. Code sharing refers to the computer reservation system practice of assigning the identical two letter code of a major airline to another airline so that a connection of those two carriers' flights appear to be a connection between two flights of the same airline. This "on-line" connection generally receives preferential listing and display in the computer reservation system over an "interline" connection between two different airlines. For example: "AA123" would be the code for American Airlines Flight 123. "AA4567" would refer to a commuter flight of a carrier that is in a code sharing agreement with American Airlines even though that commuter is otherwise independent of American Airlines.

In a number of cases the major airlines have become outright owners of commuters or have purchase significant equity stakes in them. Today, most of the major commuter carriers are in arrangements of some sort with the major carriers, whereby for marketing and ticket selling, the commuter largely takes on the identity of the major carrier. The commuters, which have always fed traffic to the major hub airports, are now doing so in a highly coordinated fashion involving integrated schedules, airport gate and facility sharing, and ground services.

Federal Aviation Administration Regulation of Commuters

The Federal Aviation Administration has responsibility to regulate the safety of commuter airlines. Part 135 of the Federal Air Regulations governs commercial operations of aircraft with 30

seats or less, and Part 121 governs those operations with above 30 seat aircraft. Generally, the two regulatory schemes are comparable, however Part 135 takes into account that the commuters have less capability to undertake pilot training and checking in flight simulators. Dispatch and flight following requirements are also different and are related to size and scope of operations. In operations involving the smallest aircraft, single member flight crews are permitted and flight attendants are not required. Part 135 does not require a structural maintenance organization as does Part 121. And with respect to some equipment, Part 121 requires more redundancy than Part 135.

In 1978, as part of the Airline Deregulation Act, Congress directed the Federal Aviation Administration to raise the safety standards on commuter air carriers "...to assure that the level of safety provided to persons travelling on such commuter air carriers is, to the maximum feasible extent, equivalent to the level of safety provided to persons traveling on ... the large air carriers ." (Section 419(c)(3) of the Federal Aviation Act of 1958 as amended).

The FAA conducts inspection and surveillance of the commuters through Field Offices around the country. When significant safety violations have been found, these inspections have resulted in civil penalties being assessed and in some cases, revocation of operating certificates of airlines or grounding. Most recently Ryan Airways of Alaska was grounded after an investigation following a series of accidents.

On March 8, FAA Administrator McArtor announced a special year long inspection and evaluation of the commuter industry to determine their compliance with the agency's safety rules and regulation.

Accident Record of The Commuter Industry

Commercial aviation accidents, including commuter accidents, are quite rare events. Accidents however are indicators of failures in the safety of the aviation system, so individually and collectively, accidents receive close scrutiny and intense evaluation by the government and industry.

The chart at the end of this summary labeled, Attachment I, depicts a number of ways to view the accidents of scheduled commuters regulated under Part 135 of the Federal Air Regulations.

Beginning in 1978, the Part 135 accident rate began a steady improvement from a rate of 3.1 accidents per 100,000 departures to a rate of 0.8 accidents per 100,000 departures in 1983. From 1983 to 1986 the rate held steady. But in 1987, the rate jumped to 1.4 accidents per 100,000 departures, its highest level since 1981. By comparison, the Part 121 annual accident rate has ranged between 0.2 and 0.5 per 100,000 departures over the last 11 years.

Commuter Airline Safety Issues

The National Transportation Safety Board is responsible for investigating and determining the probable cause of aviation accidents. The NTSB investigation of the 1987 and 1988 commuter accidents are still largely underway, and no final conclusions have been reached. (The NTSB has concluded its investigation of the commuter mid-air collision near Salt Lake City, Utah on January 15, 1987, but the issues related to it largely involved air traffic control).

Attachment 2 is an NTSB summary of 1987 and 1988 fatal commuter accidents.

In accident investigations that have been concluded by the NTSB, the safety issues typically associated with commuter accidents have been:

(1) High turnover and instability in the pilot, supervisory and management ranks of commuter carriers. This turnover and instability have raised concerns about experience levels, cockpit coordination, training, and pilot selection.

(2) Problems in Federal Aviation Administration surveillance and oversight of the commuter industry. The NTSB has cited, in a number of accident investigations, infrequent and inadequate FAA inspections of the airlines. Principal inspectors of commuters typically have several certificates to manage.

(3) Equipment problems such as lack of standardization of an aircraft type's cockpits within an airline's fleet, no ground proximity warning devices (which are not required on Part 135 aircraft), and high cockpit noise levels.

Even though the NTSB has reached no conclusions, in the 1987 and 1988 commuter accidents, these same types of problems appear evident in some cases.

The Subcommittee will also be receiving testimony on the marketing relationships between the major carriers and the commuters and whether there is, or should be, any responsibility for commuter airline safety borne by the major airlines in those relationships. The Committee's aviation staff has sent a memorandum to Mr. William Burhop of the Air Transport Association raising some issues for consideration. That memorandum is Attachment 3.

Witnesses

Anticipated witnesses at the hearings will be:

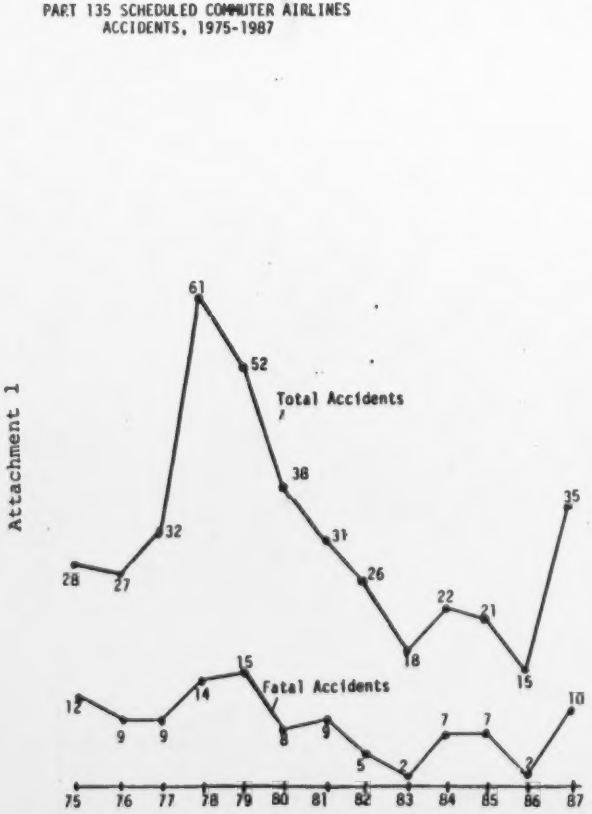
Honorable John Lauber
Member, National Transportation Safety Board

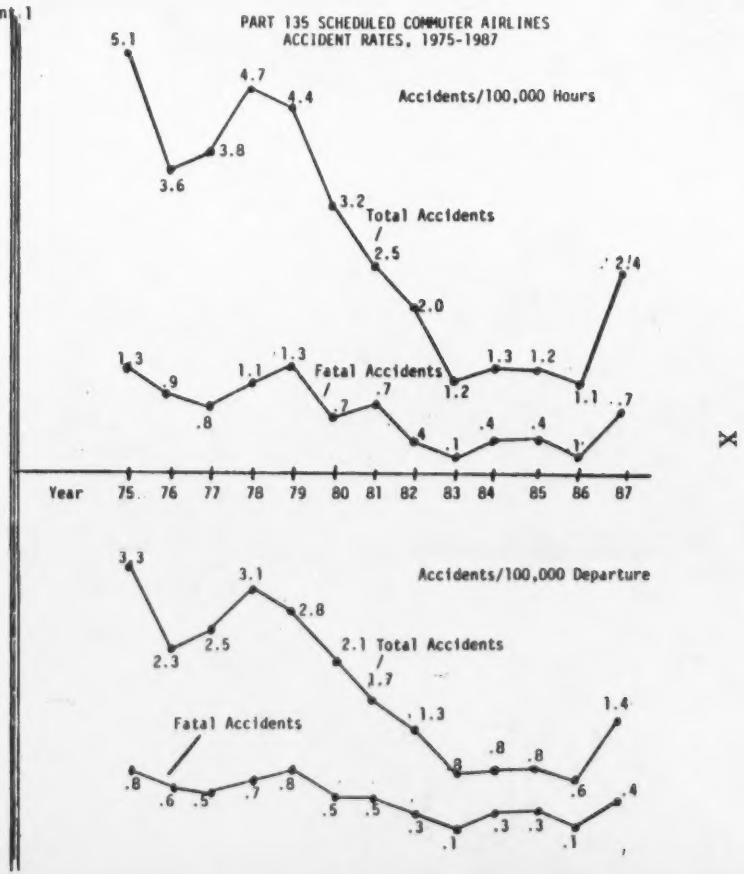
Honorable T. Allan McArtor
Administrator, Federal Aviation Administration

and Representatives from:

Regional Airline Association
Air Transport Association
Air Line Pilots Association

Attachment 1




PART 135 SCHEDULED COMMUTER AIRLINES
ACCIDENT RATES, 1975-1987
Accidents/100,000 Hours
Total Accidents
Fatal Accidents
5.1 3.6 3.8 4.7 4.4 3.2 2.5 2.0 1.2 1.3 1.2 1.1 2.4
1.3 .9 .8 1.1 1.3 .7 .7 .4 .1 .4 .4 .1 .7
Year 75 76 77 78 79 80 81 82 83 84 85 86 87
Accidents/100,000 Departure
2.1 Total Accidents
Fatal Accidents
3.3 2.3 2.5 3.1 2.8 1.7 1.3 .8 .8 .6 1.4
.8 .6 .5 .7 .8 .5 .5 .3 .1 .3 .3 .1 .4

Attachment 2

FATAL ACCIDENTS AND FATALITIES
U.S.AIR CARRIERS OPERATING UNDER 14 CFR 135
ALL SCHEDULED SERVICE
(COMMUTER AIR CARRIERS)
1987 (PRELIMINARY DATA)

Date	Location	Operator	Service	Aircraft	Fatalities				Total Aboard	Reported Type of Accident
					Pssgr	Crew	Other	Total		
1/15	Kearns, UT	Sky West	Pssgr	Swearingen SA-226TC	6	2	2	10	8	Midair collision with General Aviation aircraft
3/04	Detroit, MI	Northwest Airlink	Pssgr	Casa C-212 -CC	7	2	0	9	18	Crashed and burned during landing.
5/08	Mayaguez, PR	American Eagle	Pssgr	Casa C-212	0	2	0	2	6	Crashed during landing.
5/27	Atlantic Ocean	Aero Coach Aviation	Pssgr	Cessna 402C	0	1	0	1	1	Failed to arrive at destination, assumed to have crashed at sea.
8/08	Crooked Creek, AK	Hermans Air Inc.	Pssgr/ Cargo	Cessna 207	0	1	0	1	1	Crashed while maneuvering to delay landing until weather at landing site improved.
9/28	Freeport, Bahamas	Caribbean Express	Pssgr	Embraer EMB 110-P-2	0	0	1	1	10	Ramp agent walked into turning propeller.
11/23	Homer, AK	Ryan Air Service	Pssgr	Beech BE-1900C	16	2	0	18	21	Crashed on landing, 200 yards short of runway.
12/22	Chadron, NE	Regional Express	Pssgr	Cessna 402C	0	2	0	2	3	Collided with trees during landing approach.
12/23	Kenai, AK	Southcentral Air	Pssgr	Piper PA-31 -350	5	1	0	6	8	Collided with trees on downwind leg of traffic pattern.
12/23	Haunaloa,HI	Panorama Air	Pssgr	Piper PA-31 -350	7	1	0	8	8	Crashed at sea.

1988
14 CFR 135
FATAL ACCIDENTS
SCH OPERATIONS ONLY

DATE	LOCATION	OPERATOR	TYPE OF OPN	TYPE OF AIRCRAFT	DAMAGE	FATALITIES
1-04	BEDFORD PARK, IL	PROMPTAIR, INC.	SCH DOM CARGO	CESSNA T210H; SN 21063610	DESTR	1
1-19	BAYFIELD, CO	TRANS COLORADO	SCH DOM PASS	FAIRCHILD-SWEARINGEN SA-227AC	DESTR	9
2-19	MORRISVILLE, NC	AIR VIRGINIA, INC.	SCH DOM PASS	FAIRCHILD-SWEARINGEN SA227AC	DESTR	12
					TOTAL	22

ATTACHMENT 5

JAMES J. HOWARD, NEW JERSEY, CHAIRMAN

GLENN M. ANDERSON, CALIFORNIA
ROBERT A. ROE, NEW JERSEY
NORMAN Y. MINETA, CALIFORNIA
JAMES L. OBERSTAR, MINNESOTA
HENRY J. NOWAK, NEW YORK
RICK JOE RAHALL II, WEST VIRGINIA
DOUGLAS APPLEGATE, OHIO
RON DE LUGO, VIRGIN ISLANDS
GUS SAVAGE, ILLINOIS
FOFO I.F. SUNIA, AMERICAN SAMOA
DOUGLAS H. BOSCO, CALIFORNIA
ROBERT A. BORSKI, PENNSYLVANIA
JOE KOLTER, PENNSYLVANIA
TIM VALENTINE, NORTH CAROLINA
EDOLPHUS TOWNS, NEW YORK
WILLIAM O. LIPINSKI, ILLINOIS
J. ROY ROWLAND, GEORGIA
ROBERT E. WISE, JR., WEST VIRGINIA
KENNETH J. GRAY, ILLINOIS
PETER J. VISCLOSKY, INDIANA
JAMES A. TRAFICANT, JR., OHIO
JIM CHAPMAN, TEXAS
W. GRAYTON LANCASTER, NORTH CAROLINA
LOUISE MCINTOSH SLAUGHTER, NEW YORK
JOHN LEWIS, GEORGIA
PETER A. DEFAZIO, OREGON
BENJAMIN L. CARDIN, MARYLAND
BILL GRANT, FLORIDA
DAVID E. SKAGGS, COLORADO
JIMMY HAYES, LOUISIANA
CARL C. PERKINS, KENTUCKY

JOHN PAUL HAMMERSCHMIDT, ARKANSAS
BUD SHUSTER, PENNSYLVANIA
ARLAN STANGELAND, MINNESOTA
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WILLIAM F. CLINGER, JR., PENNSYLVANIA
GUY MOLINARI, NEW YORK
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Committee on Public Works and Transportation
One Hundredth Congress
U.S. House of Representatives
Room 2165, Rayburn House Office Building
Washington, DC 20515
TELEPHONE: Area Code 202, 225-4472

March 31, 1988

TO: BILL BURHOP, AIR TRANSPORT ASSOCIATION
FROM: DAVID HEYNSFELD/DAVID TRAYNHAM 225-4

In order to assist the Air Transport Association and its members in preparing testimony for the April 19 hearings on commuter airline safety, we provide the following issues/questions.

(1) When a major carrier is considering whether to enter into a marketing/code sharing arrangement with a commuter carrier, to what extent is the safety record or reputation of the commuter a factor in the decision to enter the arrangement?

(2) If safety is a factor in the decision to enter such an arrangement, what does the major carrier do to assure itself that the commuter is "safe enough"?

(3) Do the major carriers ever impose any safety standards on the commuter carriers with which they enter into marketing arrangements beyond what the Federal Aviation Regulations require? Do the major carriers work with their commuters to enhance the safety of the commuters?

(4) To what extent are safety and accident liability issues addressed in the contracts between the major carriers and the commuters with which they enter marketing arrangements?

(5) Has a major airline ever been sued by the victims of a commuter accident with which it had a marketing arrangement?

(6) Has a major airline ever been found liable in the accident of a commuter accident with which it had a marketing arrangement?

(7) Has a major airline ever settled with the victims of a commuter accident with which it had a marketing arrangement?

(8) Do the major carriers think there is a problem with the relatively low level of experience and high turnover of commuter pilots? Is there anything the majors could do to improve the situation?

(9) Do the majors think the commuter safety record is satisfactory? Is there anything the government and the industry should be doing to improve commuter safety?

COMMUTER AIRLINE SAFETY

TUESDAY, APRIL 19, 1988

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON AVIATION,
COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION,
Washington, DC.

The subcommittee met, pursuant to notice, at 11:08 a.m., in room 2167, Rayburn House Office Building, Hon. Norman Y. Mineta (chairman of the subcommittee) presiding.

Mr. MINETA. The Aviation Subcommittee will please come to order.

Today, the Subcommittee on Aviation is holding a hearing on commuter airline safety. Over the past several years, the safety of commuter airlines, as measured by the accident record and rate, has improved significantly. In the late 1970's, there were approximately 3 accidents for every 100,000 departures. By the mid-1980's, this rate had dropped to less than 1 accident per 100,000 departures.

This improvement came about because of strengthened government regulation as well as the efforts of the commuter industry itself. However, the 1987 accident record took a turn for the worse. The rate which had been at an all-time low in 1986 climbed to nearly 1.5 accidents per 100,000 departures. To look at this another way, there was, on average, 3 airline commuter accidents per month last year. The record so far for 1988 appears to be similar to that of 1987. Since January 1, there have been 9 accidents, 3 of which have resulted in 22 fatalities.

Now, I recognize, 1 year, does not make a trend, but there is a great deal of concern at the Federal Aviation Administration, the National Transportation Safety Board, and here at this Committee that action is needed to ensure that the recent record does not become a new trend.

I must note that the Presidentially appointed Aviation Safety Commission which released its report and recommendations yesterday devoted considerable attention to commuter safety.

Today, we will hear from government and industry witnesses as to what underlies the recent accident record and what is being done to improve it.

As was stated in the notice announcing these hearings, the Subcommittee is also interested in receiving information and views on the relatively new marketing relationships between the major airlines and the commuters and whether these relationships do or should place any responsibility for commuter airline safety on the major airlines.

So, I look forward to everyone's testimony.

Mr. Stangeland, I would like to call on you as the Ranking Member.

Mr. STANGELAND. Thank you, Mr. Chairman.

I would like to commend you and the ranking Republican on the subcommittee, Mr. Gingrich, for holding today's hearing on commuter airline safety, a very important issue for our country's aviation system. It impacts upon the safety and the transportation needs of millions of Americans and merits serious attention from the subcommittee.

Since airline deregulation in 1978, we have witnessed, as you have stated, a tremendous growth in the role of commuter or regional airlines. About 320 airports in the United States are served exclusively by regional airlines which offer smaller planes and more cost-effective operations for certain routes, and the FAA predicts the commuter industry will continue to grow in the 1990's.

Unfortunately, the accident rate is growing as well, at least recently. In the last year and early part of this year, we have seen a disturbing number of accidents and fatalities. This recent trend stands in stark contrast to the earlier safety record of the regional industry as it is set up.

The impact on Minnesota is of particular concern to me. Regional airlines play a large role in helping to meet the State's transportation needs. Minnesotans and others rely heavily on the commuter system to travel throughout the State, and I am sure, Mr. Chairman, that this is true in many other States as well.

At the same time, it is a broad-reaching national issue with many sub-issues. For example, we need to look at data from the National Highway Transportation Safety Board regarding pilot training and experience. We also need to look at the unique relationship known as code sharing between commuter airlines and major airlines.

I think today's hearings will help provide a better understanding of commuter airlines and the safety problems they face. I look forward to hearing testimony from Administrator McArtor and our other distinguished witnesses.

With that, let me close, Mr. Chairman, so that we can get to the hearing.

Thank you.

Mr. MINETA. Thank you very much, Mr. Stangeland.

Mr. Skaggs.

Mr. SKAGGS. Thank you, Mr. Chairman.

I would like to echo Mr. Stangeland's remarks. I appreciate your calling these hearings.

In my State of Colorado, we are particularly concerned because of the dependence of so many of our communities on regional airlines and because of our own recent tragic experience with a crash in Colorado earlier this year.

So, I hope we will be able to both enlighten ourselves and present some useful information to the public and to the regulatory agencies through these hearings.

Thank you, Mr. Chairman.

Mr. MINETA. Mr. Gingrich.

Mr. GINGRICH. Thank you, Mr. Chairman.

Today, the subcommittee is focusing on commuter airlines and the possible causes for the recent increase in accidents involving commuter carriers.

From the beginning of deregulation until 1987, commuter airlines were getting safer each year. Their track records were improving.

However, in 1987, 58 people were killed in 10 major commuter airline accidents. That is a rate of 0.41 fatalities for every 100,000 departures.

While riding in a commuter airplane is still far safer than driving to this hearing today in your car, the FAA decided that this trend should be investigated. Over 200,000 takeoffs and landings for each accident, a slightly higher accident rate than before, was enough to alert the Agency.

I commend Mr. McArtor and the FAA for their initiative in starting a very thorough inspection of commuter carriers last month. A year-long inspection of how commuter airlines are functioning, including a close look at training programs, maintenance procedures, and pilot experience is a very good idea.

There is ample reason for this concern. Commuter airlines, as the entry point for the airline industry, tend to have the youngest flight attendants, the youngest pilots, and the youngest mechanics. People who work for commuter airlines accept long hours and low pay because they know the job is a first step toward working for one of the larger carriers.

In fact, 4,000 of the 5,300 commuter airline pilots have been hired in the last year, and there is a 60 percent annual turnover rate among commuter pilots. I think these statistics warrant the type of thorough special investigation recently launched by the FAA. These statistics also warrant the attention of this subcommittee.

Several of my colleagues have suggested recently that the majors who code share with commuter airlines should be responsible for their safety. I disagree. It is the responsibility of the certificate holder of the commuter airline to comply with FAA safety regulations. It is the responsibility of the FAA to ensure the fitness of every air carrier and to enforce compliance with FAA safety regulations.

Furthermore, the major carriers' freedom to contract with commuters to expand the services offered the public should not become an opportunity to provide one more deep pocket for law suits for various liability suits. But I want to carry this two steps further.

At a time when one of the major airlines—two of the major airlines, actually, Texas Air's two subsidiaries, Continental and Eastern—are themselves being investigated, I think we have to ask the question, do we want to have a large carrier which may be having problems of its own involved directly in the safety responsibility for another airline? What precedent would this set?

What do we say to every small business in America if we establish the principle that the management of a giant system will now oversee you and be legally required by the Federal Government to impose its will on your operations?

Second, I would say to the airline industry that the passenger has the right to know clearly in advance what airline they are

flying. It is conceivable that out of this particular set of hearings we will conclude that in fact every ticket should indicate clearly, whatever the code sharing relationship, who you are flying on, and that you shouldn't expect to be flying on United or Northwest or Delta or American or Eastern or Continental or U.S. Air—I want to make sure I get all the majors in so none of them are too angry at me—if in fact you are flying on a commuter.

The nexus we may be reaching is if, in fact, you do not want the liability for ensuring that that commuter carrier is considered to be you, then it can't be considered you. The passenger can't expect to be buying one kind of service and be getting another.

I would suggest we go further down the road to a rational system to ensure that the passenger knows what they are paying for.

I thank the chairman for holding this hearing. I think it will be very helpful. It is a very important topic, and, again, I do not want to close without saying to Mr. McArtor and the FAA I think you have shown outstanding leadership over the last several months in your commitment to safety. I think the steps you have taken on both commuter airlines issues and on the issue of Texas Air have been very aggressive, very correct, and are exactly the kind of commitment to public safety we need.

Thank you, Mr. Chairman.

Mr. MINETA. Thank you very much, Mr. Gingrich?

Are there other Members who wish to have an opening statement.

Mr. BALLENGER. Mr. Chairman.

Mr. MINETA. Mr. Ballenger.

Mr. BALLENGER. Mr. Chairman, I have a very short opening statement.

As a Member of Congress who flies a commuter twice a week—and I consider it one of the better ones; we won't use names or anything like that—but considering that we landed in a crosswind in Charlotte when the wind was blowing at 30 miles an hour yesterday and we made it safely, I would like to commend my commuter for getting me through the whole thing. I can truthfully say, although I have been cancelled out several times, I like my commuter.

Mr. MINETA. Thank you very much, Mr. Ballenger.

Does anyone else have a statement?

[No response.]

Mr. MINETA. If not, we do have statements from Mr. Hammerschmidt and Mr. Inhofe which, without objection, will be entered into the record.

[The prepared statements of Mr. Hammerschmidt and Mr. Inhofe follow:]

STATEMENT OF HON. JOHN PAUL HAMMERSCHMIDT

Mr. Chairman, back in 1978, when we deregulated the major airlines, we knew that it would lead to a larger role being played by commuters in the National Air Transportation system.

With the freedom to choose their own routes, many large airlines were able to abandon the routes they found to be unprofitable. But most of these routes were picked up by commuters who could serve them profitably with their smaller aircraft. As a result, many small and medium-sized communities now rely entirely on commuters for their scheduled air service.

The switch from jets to commuters at small communities was not unexpected but we did expect that the new commuter service would be performed safely. That is why the deregulation fitness requirement as well as a directive to the FAA to toughen up its safety rules for commuters.

The FAA did adopt tougher rules and between 1978 and 1986, the commuter accident rate did decline. But recently, there has been a disturbing reversal in this positive trend. Last year, there were 35 commuter accidents, the highest number this decade. Ten of these accidents resulted in fatalities. There were seven fatal commuter accidents in just the 4-month period between November 1987 and February 1988.

While we will have to await completion of the NTSB investigations before we will know the precise cause of each tragedy, the recent surge in accidents does raise serious questions about the overall safety of the commuter airline industry. I was pleased to see that FAA has recognized the need for action and has launched a special inspection of the commuter industry.

Nevertheless, it is also important for this committee to take a close look at commuter airlines in furtherance of our oversight responsibilities.

In this scrutiny, there are several issues we should focus on. One is pilot training and experience. As major airlines expand, they are looking to commuters to fill their pilot ranks. As a result, some commuters are seeing rapid turnover in their pilot work force.

Fears have been expressed that commuters are "scraping the bottom of the barrel" in recruiting pilots.

Another important issue is code-sharing, where a commuter airline shares the two-letter computer code of a major airline. In the past, I have indicated that a major airline should take some responsibility for the quality of the customer service provided by its code-sharing partner.

In fact, this will soon be specifically required by section 419(i) of the Federal Aviation Act, as amended by the Airport and Airway Safety and Capacity Expansion Act of 1987. Perhaps, some consideration should be given to imposing a similar obligation on the major carrier in the safety area as well. Since, in such cases, the commuter is held out to the public as being part of the major airline, it may be reasonable to require that airline to share responsibility with the commuter for the safety of the service provided to the public.

I recognize that this may be controversial and I am not insisting on it at this time. It is, however, an idea worth thinking about.

So, in conclusion, Mr. Chairman, I would like to thank you for calling this timely hearing and join you in welcoming the witnesses here today.

OPENING STATEMENT OF HON. JAMES M. INHOFE

Mr. Chairman, I would like to express my appreciation to you and the Ranking Member, Mr. Gingrich, for holding this hearing.

One of the major issues and problems in commuter airline safety is pilot training and experience, and I am very glad that this hearing will focus attention on that problem.

The decline in the number of military-trained pilots is coming at a time when the air transportation is expanding rapidly and the demand for pilots is high. Because of this combination of events, the general aviation community has realized for a long time that the air carrier pilots of tomorrow are the young general aviation pilots of today. As a result, general aviation groups sought to bring this situation to the public's attention and have promoted efforts to encourage young people to become pilots. They have also strenuously opposed rules and policies that would limit student pilots ability to log flying time and thereby increase their experience.

This hearing is a positive step towards examining the problem of pilot training, and I encourage the Subcommittee to solicit general aviation's input on possible solutions.

Mr. MINETA. I would like to call forward at this time Dr. John K. Lauber of the National Transportation Safety Board.

Dr. Lauber, your statement will be made a part of the record, so please go ahead and introduce your colleagues. You may proceed with your statement.

TESTIMONY OF HON. JOHN K. LAUBER, MEMBER, NATIONAL TRANSPORTATION SAFETY BOARD, ACCOMPANIED BY RONALD SCHLEEDE, CHIEF, AVIATION ACCIDENT DIVISION, AND WILLIAM G. LAYNOR, DEPUTY DIRECTOR FOR OPERATIONS, BUREAU OF TECHNOLOGY

Mr. LAUBER. Thank you very much, Mr. Chairman, and good morning, members of the committee.

I have with me this morning Mr. Ron Schleede, Chief of our Aviation Accident Division, and Mr. Bud Laynor, Deputy Director of our Bureau of Technology.

With your permission, we will simply summarize and highlight the prepared testimony which we have previously submitted to the committee.

I would like to start off—I don't think it is necessary to dwell at length, obviously, on the statistical issues which have already been discussed in the various opening remarks. I think we are all concerned by the fact that after nearly a decade of continuous improvement in commuter airline safety, there has been an apparent turn-around in 1987 that seems to be continuing into 1988 with the three fatal accidents that have occurred, two of those being in passenger carrying operations at Durango, CO in January and at Raleigh-Durham, NC, in February.

Of course, as recently as last Friday night, we launched a GO team to investigate the accident involving Horizon Air up at Seattle. Fortunately, there were no fatalities involved in that accident.

I think one of the questions we have to ask is whether or not what apparently is an upturn based on the 1987 and early 1988 accident history is in fact a long-term trend toward a decreased in overall safety levels within the commuter industry. I think that, at present, the jury is still out on that.

Accidents, unfortunately, are not uniformly distributed in time, and it is going to simply be a matter of time until we are able to learn whether or not the series of accidents that we had is going to continue into the rest of 1988 and into the future beyond that.

In any event, I think when we start to look at the issues that are arising out of our accident investigations—and I would have to underscore the fact that many of these investigations are still under way. We have not determined probably cause. Nonetheless, when we look at what is coming out of the early stages of our investigation, it is clear that at least many of the issues that we have identified in the past in commuter airline accidents are related to or seem to be involved in the accidents that are happening at present.

So, for that reason alone, we think it is timely to take a look at what is happening in the commuter airline industry with regard to safety and, importantly, to review progress that has been made in terms of eliminating problems and issues and difficulties that have been previously identified.

We have issued, most recently in 1986 as a result of three commuter fatal accidents that happened in 1985 and 1986, a series of recommendations, 25 in number, and 21 of those were addressed to the FAA. Another 4 were addressed to the Regional Airline Association.

These recommendations address various areas of concern that were identified on the basis of our investigation of those three accidents. Those accidents are the Bar Harbor accident at Lewiston, Maine in 1985; the Henson accident at Shenandoah Valley, Virginia in 1985; and the fatal accident at Alpena, Michigan involving Simmons airlines.

The complete copy of those recommendations and the supporting documentation has been provided to the committee. What I would like to do is spend a few minutes talking about what we think are some of the more significant of those recommendations and those problem areas that we identified there, because these are the issues that seem to be of significance in the accidents that we are currently investigating as well.

Let me start off with, I think, what probably is one of the more significant issues that is related to the overall safety of commuter airline operations, and that is the whole questions of stability in the pilot work force among the commuter airline industry.

Because of expansionary pressures in the airline industry as a whole, that has created a tremendous demand for trained pilots. Part of that demand is being met by pilots being supplied from the ranks of commuter airline operators. That, in turn, has put pressure on that industry in terms of training and in terms of hiring and filling the required ranks for their own flight operations.

I think it is this instability and the issues which follow from that that are probably causing many of the problems that we have seen in the recent accidents.

It is not simply a matter of pilot experience, I would point out, although there have been individual accidents which have involved low levels of pilot experience. In fact, when you look at the record overall, the average levels of experience involved are certainly well above the minimum required for FAA certification. So, it is not simply a matter of pilot experience.

I think we must understand that, because, obviously, the solutions that need to be developed are going to be dependent upon what the root of the problem is.

In part, there is an issue that has to do with time in type and time in grade. We have seen a number of accidents, for example, in which both the captain and the first officer were relatively new to the airline, were relatively new to their respective positions in the airplane, or were relatively new to the specific airplane which they were flying.

This is a matter of concern, and we have issued previous recommendations with regard to or suggesting or proposing that commuter airlines impose some operational restrictions in terms of who should make takeoffs under given weather conditions and also in terms of pairing inexperienced pilots together.

However, I think we have to recognize that there is a limit to that, obviously. At some point in the introduction of a new airplane into a fleet, for example, you are inevitably faced with a situation in which crew members involved are going to be inexperienced. They simply haven't had an opportunity to accumulate any reasonable degree of experience in that aircraft.

So, the burden, ultimately, has to fall upon the development of standard operating procedures, and, most importantly, we think are the issues having to do with training and checking.

I would just point out as an example of this issue, at our most recent board meeting, we completed the investigation of an accident that happened in New Orleans involving Air New Orleans. It was a takeoff accident, and there we did find the fact that both crew members had low time in type which was contributory to the cause of that accident.

However, when you look at the overall experience levels of the pilot involved, the captain had something on the order of 7,000 hours. The first officer had something on the order of 3,000 hours total time. That is significant experience, I think, by any measure.

However, when you look at time in type, the captain had 60 hours time in type and the first officer had 18 hours, and those are inclusive of training and checking time.

So, there are causes for concern that are related to experience both in total and experience in terms of in type and in seat. However, the real burden ultimately and the issues that are raised by those have to do, we think, with training and checking.

With that, there is another area that I will briefly mention, and that is the importance of selection and screening. We have found some examples in some accidents that we have investigated where part of the hiring process was not—the background checks and the examination and evaluation of previous experience and accident records was inadequate.

So, there is a correlated problem here of making sure that carriers are doing and adequate job of screening in their new hire programs.

With regard to the training issues themselves, I think probably one of the more important areas of concern here historically has been the absence of suitable simulation for training commuter airline pilots. Full-blown simulators are expensive devices and cost, in many cases, far more than the individual aircraft or even, in some cases, probably the fleets of aircraft that an individual commuter airline operates.

For those reasons, the benefits of simulation have been largely unavailable to the industry.

We have issued recommendations with regard to that, encouraging the enhanced use of simulation, and I think most encouraging of all has been the recent developments of the RAA and FAA working together to develop the concept of advanced training devices and the approval of the use of those devices for training and checking.

As those devices become more generally available to the commuter industry, I think we are going to see some significant improvements in the training of commuter airline pilots.

I would also mention one other area with regard to training, and that is this whole issue of what we call cockpit resource management or crew coordination training. One of the difficulties involved and seen in many of the accidents and, in part, associated with the question of low time in type and related areas, is the question of effective crew coordination, effective team work, and the whole issue of whether or not or how effective the two crew members or

three crew members, if that is the case, can be in monitoring and cross checking each other.

We have long advocated far more widespread application of the use of cockpit resource management and crew coordination training. The Regional Airline Association has long been a supporter of increased application of that kind of training, and we understand that there are advisory circulars and other efforts underway which we believe will greatly help to increase the availability of this kind of training.

We have to mention the issue of FAA oversight and surveillance in these accidents, both accidents that we have investigated in the past and those that appear and related issues that are appearing in accident investigations that are currently underway.

There are several elements to this, but I think one of the key issues has to do with the training and experience, the training qualification and experience and work load of the individual principal operations inspectors. We have noted, for example, in the Henson accident and the Bar Harbor accident that, with regard to the accident airplane, the Beech 99 in both of those cases, the POI had effectively been unable to conduct any active surveillance for a matter of months on that particular airplane because they were occupied with other tasks.

Either they have other certificate holders that they have responsibility for or, in some cases, we have seen that the work load associated with bringing a new airplane onto the operating certificate of the airline has basically totally absorbed the attention of the POI.

So, part of it is a matter of work load. Part of it also is a matter of training POI's in being able to conduct effective surveillance, and that was an issue that was discussed at some length two weeks ago in our hearing into the accident at Homer, Alaska, the Ryan Air accident where it is clear that part of the problem there is that the POI's simply are not doing a proper job of conducting surveillance.

One example would be to make more effective use of no notice inspections. So, those are a series of issues that we have issued recommendations on and which are of continuing concern to us.

I think the other part of that has to do with management's responsibility for surveillance and oversight, and this comes in terms of provisions for appropriate operating procedures and operating standards and for setting the tone for defining a commitment to active flight safety.

There is a major Boeing study done in which one of the findings of that study was that airlines who are safe operators have a lower than average accident rate. One of the key characteristics of all of them was a commitment, an active commitment, on the part of management to active flight safety.

So, we have to encourage wherever we can more direct and active involvement and commitment on the part of management to safety programs.

I would point out, too, that, for example, in the case of the Ryan accident, the first officer who flew the accident trip and who was responsible for much of the weight and balance calculations and the situation on that airplane—the airplane was overloaded and

was loaded out of center of gravity limits—that co-pilot also happened to be an instructor for Ryan Air.

Instructors, obviously, represent the company. They have a responsibility for representing the safety philosophy and attitude of management, and we think, certainly in that case, this is wanting, and it is an area that we want to underscore.

Finally, I would conclude with a brief discussion of a series of equipment related issues that have come up and continue to come up in accidents, starting with the whole question of cockpit standardization. We noted in the Henson accident serious problems with regard to cockpit standardization, that is, the location and kinds of—in that case—navigation radios and displays were nonstandard. It was a mixed fleet, and nearly every airplane was different in some significant regard from every other.

This is a situation that is ripe for human error, and we think it was an important factor in that accident.

I would mention cockpit noise levels as being an area also where we have issued recommendations. Some of these cockpits, the Beech 99 most notably, are so noisy that in order to actually communicate, the two crewmembers have to resort to hand signals, and we have issued recommendations that those issues be addressed and that, where appropriate, the use of flight interphones and other approaches to that problem be taken.

There is also some question of certification, that is, aircraft certification issues which came up in a couple of accidents involving the CASA 212 in which the stall characteristics of that airplane were called into question, and the whole question of how those were certified becomes an issue of concern.

Finally, in this regard, I would mention two additional areas. One is the ground proximity warning system.

A large number of the commuter accidents that we have investigated are what are called controlled flight into terrain accidents where the aircraft crashed into terrain under controlled flight conditions when there were no other apparent problems with the aircraft. We have looked in most of these at what kind of warning could have been provided by ground proximity warning systems and find that it probably could have been a significant factor in a large number of them.

Most recently, we looked at the Durango accident, and there would have been a terrain warning issued to the crew of the Durango accident some 78 seconds before final impact took place. We think that the experience with ground proximity in major air carriers and the fact that the controlled flight into terrain accidents have nearly disappeared as a result is significant, and we continue to encourage the development of affordable, workable ground proximity warning devices for the commuter industry.

I will just close by mentioning the one final equipment related issue, and that is one that has been a persistent problem for us, but we hope because of recent actions that it is one for which solutions are being developed. That is the whole question of cockpit voice and flight data recorders.

That has been a longstanding problem to us, and we are very pleased with the actions that are being taken to remedy those problems.

With that, Mr. Chairman, I will close my formal remarks and will be happy to respond to questions.

Mr. MINETA. Thank you very much, Dr. Lauber.

Mr. Anderson, do you have any comments?

Mr. ANDERSON. No, thank you, Mr. Chairman.

Mr. MINETA. Dr. Lauber, thank you very much for your testimony.

First of all, you state that you are discovering the same issues in the recent accidents as those that have been highlighted in the past. What explains the recent increase in the frequency or rate of accidents?

Mr. LAUBER. I think there are two things we have to consider there. One is the comment that I made at the opening of my remarks, and that is the question of whether or not there is actually a long-term upturn in the accident rate within the industry.

The other part of that—let's assume for the moment that there is something going on here and that we have actually turned the corner. I think probably the most likely explanation for that is this whole issue of stability that I mentioned within the pilot work force, the rates of turnover within the pilot ranks.

I would also mention that it is not just the pilot ranks, but that turnover problem extends into first line supervisory and management personnel as well. We have seen high turnover in the ranks of instructors and check airmen and others.

I think it is a matter not so much of any qualitative change. That is, we are seeing largely similar kinds of problems, but it is a matter of degree. Increased turnover is resulting in increased pressures on the training system and check standards, and that would probably account for the upturns that we have seen.

Mr. MINETA. You have also outlined in a very succinct fashion the Board's recommendations and the FAA's response. In some areas, they have responded. In others, it appears there is a debate over whether the problem is significant enough to warrant action.

With respect to the open recommendations, you, of course, would like to see all of them closed with some kind of acceptable action, but can you provide us a sense of what should receive priority with respect to open recommendations to the FAA? Could you rank the outstanding recommendations as to their safety impact?

Mr. LAUBER. Well, we of course believe that they are all important, but, clearly, there are some areas that should receive emphasis over others. I think we would probably list very high on our list of concerns the ground proximity warning system recommendations that we have issued, in part because it is a bit of technology that has been demonstrated to be so effective in largely eliminating a major class of accidents in the majors.

The problem, or course, is developing affordable systems that will meet the needs of the commuter operators. However, because so many of these accidents do involve controlled flight into terrain situations, I think we would give very high priority to those issues.

Mr. MINETA. Just on the ground proximity warning system, how much, roughly, does that cost completely installed?

Mr. LAUBER. Mr. Laynor, I believe, has some information on that.

Mr. LAYNOR. In a full system in an air carrier aircraft, we have figures that indicate it is over $60,000 for the installation. A lot of that is the cost of the radio altimeter.

Mr. MINETA. But that is on a jet transport. What about a commuter type aircraft?

Mr. LAYNOR. Right now, there are no really low cost systems readily available off the shelf that meet the technical standard orders of the FAA to install in those airplanes. However, we feel—at least, our discussions with some people in industry indicate—that such systems could likely be developed if there were an incentive within the industry to put the engineering cost into such development.

In other words, if they perceived——

Mr. STANGELAND. Excuse me, Mr. Chairman. We are having trouble hearing Mr. Laynor.

Mr. MINETA. Mr. Laynor, would you pull the microphone up a little closer, please?

Mr. LAYNOR. Can you hear me better now?

Mr. STANGELAND. Yes, thank you.

Mr. LAYNOR. We have been informed by people in the industry that they believe that a low cost unit could be developed, perhaps with some necessary relaxation of technical standards, so that the unit would not necessarily have to meet the same performance as those units that go onto the large air carriers. For example, the radio altimeter may not read all the way down to the ground, but we have been given an indication that costs could potentially come down to about $10,000.

Mr. MINETA. In terms of weight, how much does that mean on an aircraft?

Mr. LAYNOR. We have also been—there are no units developed, but we have been told, for example, that the weight for an air carrier installation when we start talking about flight data recorders, cockpit voice recorders, ground proximity warning indications and such—when you get all these combined, it is prohibitive. We have heard figures like 90 pounds.

For a potential low cost and less sophisticated unit, we have heard figures like 15 pounds.

Mr. MINETA. And when you have a ground proximity warning system, does that require a CVR and an FDR in conjunction with it?

Mr. LAYNOR. No, it does not, but we know that there are some people in the industry who believe that, for example, the ground proximity warning indicator uses some of the same sensors as a flight data recorder would use, and we know that there is some interest in combining several pieces of equipment into perhaps one consolidated piece of equipment that would accept the same inputs but do several functions.

For example, the flight data recorder and the ground proximity warning system could very well be contained in the same black box.

Mr. MINETA. Dr. Lauber, you devote a considerable amount of your testimony to the need for improved FAA surveillance.

Well, before we go on, what would you consider next in priority to the GPWS?

Mr. LAUBER. I think next to that would be the recommendations that have to do with the twin issues of training and the development of appropriate check standards for pilot checking. We would encourage and continue to encourage the more widespread application of simulation and advanced training devices.

So, that is an issue that we feel is high on our list of priorities.

The other has to do with suitable flight check standards. One of the things that we ran into in our investigation of the accidents in 1985 and 1986 was a lack of standardization with regard to such basic issues as when to initiate a missed approach. Do you do it when there is one dot deviation on the glide slope or full-scale deviation? And there were inconsistencies in the way those were being trained and the way those were being checked and the way those were being actually applied on the line.

So, that is an outstanding recommendation that we want the FAA to move on and the industry, too.

Mr. MINETA. We better look at that whole issue of training and the development of check standards. You mentioned simulators. Is the problem that there are 8, 10, or 12 different kinds of aircraft, and we don't have a 6 degree simulator for all of them? Not one commuter airline can afford to buy a simulator even though they may have six Swearingens. Even if there is a 6 degree simulator for a Swearingen, the cost for them may be beyond their means?

On the other hand, is there a way maybe that we could either have the FAA own that kind of equipment to put all the people in the commuter industry through that kind of a training or through private companies contracting to have that done? Is that something that is possible?

Mr. LAUBER. I think, to some extent, that is feasible. I am not sure about the question of ownership, but there are simulators that are available, and as we see more new kinds of airplanes come on line with some of the more recent new technology airplanes, there are simulators that are becoming available and being made available at training centers where they are available for contract use by carriers.

That has been true to a very limited extent with other aircraft as well. However, even that provides some great difficulties in terms of the logistics of getting pilots to the appropriate training center and so on.

It is a solution, and there are benefits to be gained from it. I personally think, though, that part of much of the training requirements and demands can be met through the use of advanced training devices and lesser devices than a full-blown simulator.

Obviously, if you are going to do total training, you have to have a full-blown simulator in order to do that, but many of the skills and much of the checking can be done in devices that don't have the full motion capabilities and don't have anywhere near the cost of a full mission simulator.

There has been a tremendous amount of work done by the Department of Defense and NASA and others showing how very effective very low cost training aids and devices can be when they are used in appropriate training programs. I think we need to foster the development and use of those devices.

Mr. MINETA. On page 8, when you talk about that Shenandoah crash, the first officer thought that the ILS deviation indicator was slaved to the captain's number 1 radio. Why would there be—why would something like that occur? Isn't that something relatively basic to a person's knowledge of the equipment you are flying, Shouldn't that have been just standard knowledge?

Mr. LAUBER. Well, we feel that it is very important, because it interacts with this experience level, and one of the effects of relatively low time and low experience is that the skills and behaviors aren't quite as polished and aren't quite as developed and aren't quite as automatic or well-formed habit patterns as they need to be.

If you couple that with a situation where a pilot is constantly in basically a new cockpit where they have to sort out what is what as they change from airplane to airplane, it compounds the difficulties that the pilot has. It has been long recognized that the issue of standardized cockpits is an important one, because it helps to standardize operating procedures and helps to develop these well ingrained habit patterns that are so important to safe operation.

As to why that situation exists, I think a lot of it just happens to do with just the way airplane fleets are acquired and assembled. As you buy airplanes from one carrier and another carrier, they tend to come with different configurations.

Unless there is an active effort made to standardize those airplanes as they come into the fleet, you can end up with a situation such as we saw in the case of Henson.

Mr. MINETA. Do you know whether or not on helicopters interphone connect systems are required?

Mr. LAUBER. We are not sure on that, Mr. Chairman.

Mr. MINETA. Do you think that ought to be a requirement on commuter aviation aircraft?

Mr. LAUBER. In a situation such as we have seen in a couple of accidents that involve that particular issue, the Beech 99, we feel fairly strongly about it. If you have a two-pilot crew, part of the reason you have a two-pilot crew is because of the team work and the cross-checking and monitoring that they can do for each other.

That requires good, effective communication between them. If noise levels are so high that, in effect, it is interfering with their on-going ability to communicate effectively and they have to resort to hand signals or they may be reluctant to use verbal communication because they have to yell it out so loudly that they are afraid they will alarm the passengers, that is a matter of significant concern.

If you are going to require a multi-pilot crew, they have to have the means to communicate effectively.

Mr. MINETA. Have you ever made that as a recommendation——

Mr. LAUBER. Yes, we have.

Mr. MINETA. That the interphone system be mandatory?

Mr. LAUBER. We have issued that, and it is presently in an open status with unacceptable action.

Mr. MINETA. Thank you very much.

Mr. Gingrich?

Mr. GINGRICH. Thank you, Mr. Chairman, and thank you, Dr. Lauber.

Let me ask you a series of questions. First of all, as I understand it, the average total flight time for the pilots who were involved in those wrecks was 7,700 hours. The average time on the type of aircraft operated was 1,090 hours, and, at least theoretically, all the pilots were current on the aircraft they were flying. Is that correct?

Mr. LAUBER. That is our understanding, yes.

Mr. GINGRICH. So, in fact, these are not amateur pilots, these are people who, at least in theory, should have a pretty good amount of experience.

Mr. LAUBER. Right.

Mr. GINGRICH. I am trying to understand part of your recommendation. Do you see it then as a problem in management rather than in piloting that the management of pilot development and the management of pilot skills seem to be inadequate in some of the recent commuter airlines?

Mr. LAUBER. Yes, that is a major part of the concern, but to get more directly to the point, I think, while it is true that the average figures you point out are just that—they are average figures—what is important in certain select cases are the specifics of the people involved.

The reason we point this out is because in several of the commuter accidents, we have seen a combination of low time in type or low time in grade, and those specific cases seem to be related to the accident at hand.

To make that, though, the general problem, it is clear that the overriding concern here is a matter of adequate performance, and that has to be achieved through effective training and checking.

Mr. GINGRICH. You assert on page 16 that there were 10 accidents and 22 enforcement actions involving Ryan Air since 1980. Is NTSB doing a systems overview of the degree to which FAA responded to that information?

Mr. LAUBER. I will let Mr. Schleede respond to that. He was present and took active part in the hearings which we held into the Ryan accident 2 weeks ago up in Anchorage.

Mr. SCHLEEDE. Sir, as a part of our hearing, we did examine the FAA's role in the past 3 years in overseeing Ryan. We specifically took testimony from the principal ops inspectors and management persons from the region and from FAA headquarters on that very topic.

Mr. GINGRICH. Should we have some kind of more sophisticated incident reporting system at the national level that allows the FAA management to decide whether or not we have passed some critical threshold on a particular airline and whether we should really examine it systematically?

Mr. LAUBER. Well, I think, clearly, the responsibility for detecting those problems is a matter of FAA surveillance and enforcement. There is a very effective reporting system that is in effect at the national level. However, it is not directed toward specifically identifying problems with specific carriers.

It is more directed at identifying generic technical and operation problems. This is the Aviation Safety Reporting System run by NASA.

Mr. GINGRICH. I guess I wonder either at NTSB or at FAA if there shouldn't be a way of also breaking that data out so that

quarterly or whatever, one is reviewing by airline system if we have a generic problem here and if we should be shifting resources into this one.

Mr. LAUBER. I think we would all basically agree that the better data base one has available for real time monitoring——

Mr. GINGRICH. Whom should be tasked with generating that and watching it?

Mr. LAUBER. I am sorry?

Mr. GINGRICH. Should FAA be tasked with analyzing the data? Should it be recoded in terms of the computer analysis as it comes out of the existing system?

Mr. LAUBER. I think, largely, that responsibility has to be with the FAA, yes.

Mr. GINGRICH. I want to pursue a general question about the commuter industry and see if I am on the right track for a second. My impression is that, proportionately, in the deregulated environment, commuters are becoming relatively more important and that you are suggesting that we may once have allowed a level of difference in quality expectations between the part 121 and part 135 airlines that is no longer an acceptable difference, that a consumer who buys a ticket should, in fact, be able to expect the same minimum quality standards without regard to whether the airplane happens to be a commuter or happens to be a major airline.

Is that a fair summary of what you are moving towards?

Mr. LAUBER. It is, but I would like to amplify on that a bit, if I may.

Clearly, there are some differences in terms of part 121 and part 135 safety. To some extent, those differences reflect, though, very fundamental differences in the basic nature of the operations.

Commuter part 135 operations tend to be short haul. They are operating at low altitude in all kinds of weather. They have more takeoffs and landings per unit of operation. There is more exposure to the high risk phases of flight in those kinds of operations than there is in part 121, and that is a difference that just goes with the very nature of the operation itself.

With regard to other things that are under more direct management and governmental control, those would have to do with things like training standards, checking standards, fundamental issues like flight and duty times, and so on and so forth. Those ought to be, by and large, uniform, it seems to me.

There are no real compelling reasons why there should be any fundamental differences between the two kinks of operations in those areas.

Mr. GINGRICH. But that would be, in effect, an increase in the relative rigor with which we currently view commuters.

Mr. LAUBER. I think that is a fair statement.

Mr. GINGRICH. And do you see the primary responsibility for increasing that rigor to be at the FAA?

Mr. LAUBER. I think that it is a shared responsibility between the industry and the FAA.

Mr. GINGRICH. But some people are suggesting that there is also a third partner in this which would be the major airlines. You recommend, as I understand it, a voluntary optional relationship to be encouraged, not a mandatory relationship to be legislated.

Mr. LAUBER. Yes, this is not something that we have taken a position on at the Board, but my own views on it are that some of the accidents that we have seen in the commuter industry are happening for reasons that we have long known about. We have talked about stabilized approaches and really basic fundamental things that are lessons learned a long time ago, in some cases the hard way, by the majors.

There is a reservoir of experience and knowledge in the major air carrier industry that, to some extent, is not available in the regional and commuter business because simply they haven't been around as long. They haven't developed that kind of indepth experience.

I would encourage, by whatever means, the flow of information, the exchange of information from where the pool of experience lies to where it is needed. That can be done, I think to some very large extent, pretty informally.

I would mention as an example of the kind of thing that recently happened that is a step in the right direction in, I believe, January, the IATA general flight crew training conference in New Orleans attended by training people from the world's airlines. It was significant that the focus of that particular conference was on training and meeting the demand requirements for pilots in the commuter industry as well.

It was an excellent exchange of information between the majors and the regionals, and that is the kind of thing that I think we need to continue to encourage.

Mr. GINGRICH. Is there any legal impediment to the majors making available to the commuters the state of the art in terms of that information?

Mr. LAUBER. I can't address the legal question.

Mr. GINGRICH. OK. I have one last question.

On page 21, it seems to me you make a pretty clear outline of drug testing that would be pre-employment testing, if there is a reason to believe that the employee has a problem, and then automatic post-accident testing. It seems to me that pretty well defines a rational strategy of approaching this issue.

Could you just draw a distinction for a minute for us between that approach and the random testing approach and explain why you prefer this targeted approach?

Mr. LAUBER. Well, I guess the concern with regard to the random testing program is that there are a number of significant issues raised by it, not the least of which are constitutional issues. Eventually, that is going to be decided elsewhere.

I think there is another effect of random testing, and that has to do with the effect upon the morale and the professional pride of the people involved, and the airline industry has had a very good record of dealing with substance abuse and I think that kind of approach needs to be encouraged.

Our feeling is that we need to focus on identifying the individuals involved and that that can be done most effectively by good pre-employment screening and also by for cause testing in the event of accidents and incidents.

Mr. GINGRICH. Thank you very much for your testimony.

Mr. LAUBER. You are welcome.

Mr. GINGRICH. Thank you, Mr. Chairman.

Mr. MINETA. Mr. Skaggs.

Mr. SKAGGS. Thank you very much, Mr. Chairman.

I would like to follow up on that last line of questioning from Mr. Gingrich in that in the Durango crash, we learned subsequently that there were some indications of cocaine derivatives in the blood of one of the crew there and, further, there were some incidents in crew driving records that had not been reported to the FAA that could have made a difference in the evaluation of the fitness of that crew member.

Could you address yourself to the adequacy of the current system of reporting other violations and incidents that bear on crew fitness and whether or not we need to recommend improvements in that?

Mr. LAUBER. Yes, it is an issue that is raised by the Durango accident, and it is one that we have seen before. One specific case that comes to mind is the Simmons accident at Alpena where we discovered that the pilot or co-pilot, one of the two crew members, had an extensive history of DWI convictions that had hitherto been unknown to us.

I think there needs to be some improvement in that background screening and investigation. Those are important indicators of an individual's fitness to fly, fitness to occupy a position of great responsibility. It is clear that, I think, both company and, again, the FAA have a responsibility to do what they can to make sure that an adequate background investigation is conducted.

Mr. SKAGGS. Has the Board made any specific recommendations at to what improvements could be made there?

Mr. LAUBER. Mr. Laynor, do you want to respond to that?

Mr. LAYNOR. Well, I am not sure I can talk about the specific recommendations, but, presently, a lot of the disclosures—for example, when you take an FAA medical, you disclose voluntarily information such as your driver record. The Safety Board has, in the context of investigating other modes of transportation accidents, addressed the issue of the National Driver Register and the availability of that information to employers or potential employers many times. So, that is one avenue that we have touched upon.

Mr. SKAGGS. And perhaps continuing with you Mr. Laynor, on the issue of the ground proximity warning system, you indicated that you are aware of some estimates that if it were appropriately modified and incentives were available and so forth, we might get the cost of that down to $10,000 a unit?

Mr. LAYNOR. Well, we have talked to suppliers who presently supply air carrier equipment. People in the engineering departments foresee the potential for developing a piece of equipment that would be down around a $10,000 figure. Presently, there are no ground proximity warning indicators, but there are things like a rad bar, talking altimeters, that are down around that cost. They embody a radio altimeter installation.

They don't do the full job, but they do something for the pilot.

Mr. SKAGGS. Well, given that having such a device would have made a difference, conceivably, in the Durango crash and, I gather, many others that you have looked into, how longstanding has been

the recommendation from the Board that regulatory action be taken in this regard?

Mr. LAYNOR. Well, the Safety Board, to my recollection, the first time we issued that recommendation was in 1986 after the Henson, Bar Harbor, and Simmons accidents.

Mr. SKAGGS. And what sort of response have you received from the airlines?

Mr. LAYNOR. We received a response which was very encouraging. The FAA responded that they accept our rationale for the need for such equipment and that they would begin rule making action. Our latest information is that the rule making action is really pending resource availability within the FAA. They have it on a priority list, so to speak.

Mr. SKAGGS. Thank you, Mr. Chairman.

Mr. MINETA. Mr. Boehlert.

Mr. BOEHLERT. Thank you, Mr. Chairman.

Mr. MINETA. Our very distinguished Member from New York who is acting ranking Republican member of the Aviation Subcommittee.

Mr. BOEHLERT. Mr. Chairman, I thank you very much.

Mr. Lauber, are you familiar with the MASSPORT plan?

Mr. LAUBER. Only vaguely.

Mr. BOEHLERT. Well, in your vague recollection, are you concerned that this financial raping of the commuters will deny them resources that they need for equipment, instruction, and training that you are talking so eloquently about today?

Mr. LAUBER. Well, I really can't respond to that, Mr. Boehlert. We have not looked specifically at that plan or the effect that it would have on commuter safety at this point.

Mr. BOEHLERT. I wish you would look specifically at the plan in the interim period. The next time we talk, I would like to get a more thorough reaction to that.

Mr. LAUBER. All right.

Mr. BOEHLERT. You talked about pairing of inexperienced pilots. Is there any sort of a formula you might recommend that we should come up with to guarantee that we have the proper amount of experience in the cockpit?

Mr. LAUBER. No. Part of the difficulty with pilot experience is that it isn't amenable to a formula kind of solution, because so much of it depends on the specific circumstances of the individuals involved and the individual air carrier. Again, I have to point out that at some point in any airline pilot's career and in any airline operation, there is going to be a period of time when the people are going to be inexperienced.

The burden has to fall upon training and checking and making sure that there is, first of all, effective development of standard operating procedures and, secondly, rigid adherence to those standard operating procedures through checking programs.

The numbers that we are dealing with that we have seen when we look at these average experience levels, as I have said, are well above the minimum requirements for certification. We are not dealing with issues that are happening down there.

Again, I guess the point with regard to the pairing issue, it is clear that where it is possible, where it is feasible, where you have

a supply of pilots and you can take steps to make sure that you don't have two absolute neophytes flying together, that represents good policy, and I think the industry and the FAA have both agreed that that represents a good way to do things and are going to encourage that.

Mr. BOEHLERT. Mr. Laynor, did you say the flight simulators are—what was the dollar figure you put on the flight simulators?

Mr. LAYNOR. I don't recall talking about the cost of flight simulators.

Mr. BOEHLERT. Could you give us an estimate of what one would cost?

Mr. LAYNOR. I am sure if you are talking about flight simulators in places like Flight Safety Incorporated and Simuflight, it is several hundred dollars per hour, I think.

Mr. BOEHLERT. And they are available on a contract basis?

Mr. LAYNOR. Yes, they are. Those places are in business to provide flight training by using their simulators. To train pilots of corporate operators and regional airlines.

Mr. BOEHLERT. And how about the ground proximity warning system? Did I hear a figure of $60,000?

Mr. LAYNOR. The air carrier ground proximity warning indicator is approximately $40,000 for the radio altimeter alone, the air carrier unit, and then another $20,000 for the ground proximity warning system which is the computer that takes the various sensors and provides the pilot with——

Mr. BOEHLERT. That is essentially the same cost for a large aircraft or a smaller aircraft?

Mr. LAYNOR. Well, as I say, there have not been units developed for small aircraft, and I think the industry and we recognize also that the air carrier unit, because of size and installation costs and maintenance, it is just not appropriate for the smaller airplanes. There has to be an incentive for some engineering development of some lower cost and perhaps less complicated equipment.

We have been told that that seems to be possible. The engineering industry believes that a unit could be developed for considerably less cost, $10,000 and 15 pounds as compared to the air carrier units.

Mr. BOEHLERT. And there is on-going R&D on that so you can——

Mr. LAYNOR. Well, we don't think that there will be really ongoing R&D to develop it. The technology is there, but the engineering industry is not going to put up the cost to develop the units until they see that there is a market for the unit and until they know what kind of specifications they have to design to.

Mr. BOEHLERT. OK, thank you.

No more questions, Mr. Chairman.

Mr. MINETA. Mr. Inhofe.

Mr. INHOFE. Thank you, Mr. Chairman, and I sincerely apologize for being late to the meeting. I had somewhat of an emergency come up.

I had prepared an opening statement. I would like to go ahead and ask to submit this and that it be made a part of the record as my opening remarks.

Mr. MINETA. Without objection, it is so ordered.

Mr. INHOFE. I would like to supplement that with a comment.

Even though I didn't hear your testimony, I have had a chance to read some excerpts from it. Number one in your concerns is the pilot training and testing standards.

My background is general aviation for some 32 years, and I have seen over that period of time, particularly accelerated in the past few years, the deterioration of general aviation, of the general aviation pilot. At one time, this country had a great surplus of well-trained military trained pilots that is no longer in existence today, and I have had a difficult time seeing where we are going to draw pilots from other than general aviation.

I assume that you covered this in your remarks. Even though I don't have a direct question for you at this time, I would like to just make the comment that this is one of the major concerns and one of the auxiliary problems that comes from the deterioration of general aviation and the number of people involved in it.

I guess I would make this a question. If you have followed the progression that has taken place in the last 5 years in terms of the numbers of individuals that are applying for and being granted private pilot certificates and upgraded certificates, do you feel that the problem that exists in the supply of trained pilots today will become more acute in the absence of some alternatives in the future given this trend?

Mr. LAUBER. Mr. Inhofe, I did not address that issue in my remarks, but I will be happy to respond to the question, because I think it is a matter of great concern.

It is clear when we look at the projections for the demand for trained pilots to operate our nation's airline system over the next period of several years that we have a supply and demand problem. It is one that I think many of us feel we are behind the power curve on in terms of anticipating where we are going to get these trained pilots from and in putting into place effective training programs that will meet the demands of the future.

I think my own personal view is that general aviation has to play a strong role in that. We have to recognize that, among other things, the benefits of a strong general aviation system is that it can and does serve as a source of pilots to meet the demands of the transportation system.

We are all encouraged by the fact that many air carriers have recognized that we are facing a long-term problem, and the FAA has as well, and they are working in conjunction with universities in developing a long-term program that will be directed toward the development of professional pilots to meet the demands of the system.

So, I think there are activities underway. I think more needs to be done and done more rapidly.

Mr. INHOFE. Well, I could name two of perhaps many of the problems that are facing general aviation that create this shortage. One, of course, would be the need for product liability reform which would at least allow the manufacturers to start making trainers again which they cannot do today.

Another is perhaps the FAA addressing the wrong thing when they are talking about trying to improve safety through the controlled air space. We have to leave a little bit of air space for the

general aviation pilot to fly around in during that training time. He is an endangered species now and he could become extinct. Then, I think, we will have a very serious problem.

The cost, if you were to take your training from scratch, would, I believe, be prohibitive and could drive the commuters out of existence, I have heard. The major airlines are having similar problems regarding their supply of competent, well-trained pilots.

As we address these problems, it's important to have the expertise of you folks who are watching these developments and watching very carefully in the field—we will be relying upon you to help resolve some of these dilemmas. Even though I am new here, I have been able to witness through personal experience and through service on this committee, that we are going to have a very much more serious problem in the shortage of pilots in the future than we have today.

Thank you very much.

Mr. MINETA. Mr. DeFazio.

Mr. DEFAZIO. Thank you, Mr. Chairman.

I would also apologize for being late. I am in another hearing at the same time as this one, and I must leave immediately after my questions.

I would like to bring up an issue that is quite current in the news regarding the Horizon Air commuter plane, the DH-8 in Seattle. The thing that occurs to me is that this is exactly the same description of an incident that occurred with me on board Horizon Air DH-8 climbing out of Seattle last June.

I was on board that flight which suffered a serious engine fire. We luckily were able to land by going straight down into Boeing Field instead of having to turn and approach SEA/TAC which is a more difficult approach, particularly in one of those planes on one engine.

I guess my question really revolves around the results. I thought perhaps I would find out somewhat to my satisfaction why that accident happened and what was being done to prevent future actions, but the letter I received from, I think, the FAA, a Wayne J. Barlow, Director of the Northwest Mountain Region—and he says, "The National Transportation Safety Board has evaluated the fuel line involved in this incident and observed damage of an undetermined origin inflicted at some point in time prior to the incident."

Now, I don't know about you, but I don't find that to be an adequate explanation of why the plane I was on had a very serious engine fire, had to make an emergency landing with people being quite distressed during that emergency landing, and then nine months later, exactly the same type of aircraft, exactly the same engine at approximately the same distance out of SEA/TAC airport had the same problem and, this time, 21 people were injured.

I guess I am questioning the adequacy of that. Doesn't the NTSB if they find serious damage of undetermined origin inflicted at some time prior to the incident begin to seriously review the maintenance records and the maintenance procedures and interview people at that airline and try to determine what the undetermined origin at some point in time was?

Mr. LAUBER. Indeed we do, and I would like Mr. Schleede who is familiar with both the current accident and that incident to respond to you.

Mr. SCHLEEDE. Congressman, that earlier incident was caused by a broken fuel line that we determined occurred during very recent maintenance. I am not sure of the time frame in which you received your letter, but the report—we just reviewed it subsequent to this recent accident—and we found it to be more than likely an isolated incident at that time, 6 months ago.

We have not been able to determine thus far in this current accident what the source of the fire was. It is in a different aircraft, the same type but not the same one. We don't think it is the same problem at this point, but the damage on this recent aircraft is significant, and we are trying to pinpoint exactly what the source of the fire was, but it was a fuel fire in the right engine.

We don't see any comparison between the two in the cause yet.

Mr. DEFAZIO. My letter is dated July 31. I had no subsequent correspondence even though I had corresponded with the FAA on this and did not receive subsequent correspondence saying that any corrective actions had been taken by the airline, anything more specific than the at some point in time undetermined origin which, both as an individual Member of Congress but also as an airline consumer, I don't find an adequate answer. That just isn't adequate.

So, I would look forward to seeing some documentation on preventive actions, disciplinary measures, or whatever we are taking against the airline because of that incident.

On the training standards, I am curious, have we set the minimum training standards or prior training standards and experience for pilots of these aircraft under discussion today for these commuter airlines? Have we set them at what you consider to be the highest desirable and safest level, or have we more or less set them somehow in accordance with the market?

Mr. LAUBER. Well, I have two responses to your question.

First of all, the average experience level of the people, of the pilots, involved in the whole list of commuter accidents that we have looked at have involved people who have well beyond the minimum experience levels required by regulation.

Mr. DEFAZIO. But are those minimum levels adequate? Are they optimal? Did you set them or——

Mr. LAUBER. It is hard to say, because we are not really testing them by the current situation. The current situation, in fact, involves people who have experience way beyond those minimum levels.

I think the other part of the question, though, is that it probably is timely to review because of this—I am sorry—to go back to the question of turnover and the instability in line pilot personnel and the pressures that that puts on an effective training and checking system, I think it is timely to review where we are with regard to the whole of flight training and flight checking.

That is an activity that I understand is underway. It is part of an industry/government effort that is part of Administrator McArtor's IMPACT 88 program, and we believe the results are due from that evaluation of both part 121 and part 135 training standards later this year.

So, I believe that the appropriate reviews are being undertaken. We are certainly monitoring that with great interest to ensure that in fact a thorough evaluation of all of those questions is being done.

Mr. DEFAZIO. I think the committee would like to be assured that the ongoing checks that are conducted are being conducted not for the convenience of the industry but for the absolute safety of the traveling public. I certainly hear a tremendous amount of anecdotal evidence. I frequently, as does the Chair, fly up front and talk to the pilots and a lot of times, after they get an idea of where you are coming from, they will be fairly free with their critiques of the current state of affairs.

One of the things frequently mentioned to me is the periodic training. A number of pilots don't feel that it is adequate and that it has been cut way back for the convenience of the airline to get them out of there as quickly as possible and not really to give them a skills upgrade or a real strict competence check.

I guess what I would like to see as a member of the committee is the assurance from both NTSB and FAA that what you are about is not balancing the airline there against the consumer and coming out a little heavier for the airline, but the consumer is just like a lead weight on that scale and they are the ones who are getting the overall consideration.

Mr. LAUBER. We surely share your concern in that regard. One of the areas that we look at to the extent that we can in any accident is the whole question of training and checking and the adequacy of the program and of the people who are responsible for conducting those programs.

We have, in specific cases, identified deficiencies and have issued recommendations that we believe will address some of those problems. Again, I would point to what I hope will be some long-term beneficial effects as far as training of the more widespread application when they become available or as they become available of advanced training devices and related equipment.

Mr. DEFAZIO. Thank you, Mr. Chairman.

Mr. MINETA. Dr. Lauber, you mentioned financial weakness of carriers as a safety issue, particularly when it is coupled with inadequate FAA inspection. What should the FAA be doing to stay on top of the carrier's financial status and condition and stability of it as was mentioned by Mr. Skaggs?

Mr. LAUBER. Of course, the question of the financial stability comes to our attention sort of indirectly when we get into an accident investigation. The AVAir accident down at Raleigh-Durham is one where the company had gone into bankruptcy and had recently resumed operations. There were clearly some indications of problems that stemmed directly from the financial position of the carrier.

Mr. MINETA. But somewhere along the line, were there telltale signs of that financial situation that should have drawn our attention?

Mr. LAUBER. Well, it is interesting to note that in the part 121——

Mr. MINETA. And let me ask you with regard to that, what should be the test or the threshold of financial weakness in which

the FAA then starts becoming concerned and turns a little extra attention to that?

Mr. LAUBER. I am not sure I can give a complete answer to those questions, but it has come to our attention that in the air carrier's inspector handbook which covers part 121 operations, there is a section that is entitled "Financial Distress Indicators" and it includes basically seven items: demand for cash on delivery for fuel and services, significant layover of personnel, delays in meeting payrolls, high levels of employee turnover, sale or repossession of aircraft and other equipment, inadequate maintenance, infrequent revenue flights.

Those are signs and these were guidelines provided to part 121 air carrier inspectors to look for as signs of financial distress and that might trigger a more indepth look at operational and safety issues.

To the best of our information, that same list or that information is not contained in the equivalent handbook for part 135 air carrier inspectors.

So, I guess my response is that would be a pretty good starting place.

Mr. MINETA. Now, with respect to turnovers in commuter airline pilots and management personnel, again, what would you recommend? People are free to go and come as the need arises and there are opportunities for pilots or management personnel to go to a major carrier.

Yet, we know there is high turnover, and it is probably going to increase as the pilot corps for the part 121 carriers increases. So, what do we do to try to ensure a constant flow of trained people?

Mr. LAUBER. Well, there are, I guess, a couple of things that we think can be done in that regard. First of all, I noted that some carriers have explored the possibility of a sort of farm club system, and maybe some of the witnesses who are going to appear after us can further address this.

However, it is an active attempt on the part of the major and the partner commuter airlines to introduce some stability by basically looking at agreements which will put some limits on or which will moderate the flow and the turnover problem in the personnel noted.

However, the real answer, I think, still has to come in the training and the standards and the enforcement of standards. We know how to train pilots. We know how to develop effective operating procedures. We know how to check pilots. It is a matter of making sure through management action and through FAA action that adequate training and surveillance and standards programs are in place.

Mr. MINETA. You have talked about adequate training. ALPA in their testimony talked about the inadequacy of commuter pilot flight time regulation. Is flight time an issue that the Board is concerned about, and has pilot flight time surfaced as an issue in any of your commuter accidents? Consequently, from those accident investigations, have you made any recommendations to the FAA?

Mr. LAUBER. To the best of my knowledge, Mr. Chairman, we have never cited fatigue or flight and duty time problems as being

causal or contributory to an accident. Now, that can mean a couple of——

Mr. MINETA. What about the Shenandoah case? As I recall, the first officer on that one had very few hours, as I recall.

Mr. LAUBER. We have discussed the matter in the body of the report, and we look into those questions whenever it appears that we have an operational kind of error. We always explore to the complete extent possible a complete flight and duty time reconstruction of the individuals involved and try to make some determination on the basis of that of whether or not or what kind of role that factor played in an accident.

The fact that we haven't cited it as causal or contributory should not be misunderstood to mean that it isn't a factor. Part of the problem in an accident investigation is understanding exactly what role fatigue and related problems do play.

It doesn't leave any telltale signs. You can't go out and find a flag saying fatigue is the problem here. You have to infer it from all of the circumstances and all of the information that is available to you.

I think the whole question in general is an important one. There is an active research effort that is underway at NASA Ames and has been for some time looking into questions having to do with fatigue and duty time in both short and long-haul operations. I am not sure that at this point they have looked specifically at commuter operators, but I know they are looking at such things as long-haul oceanic operations. They are also looking at night cargo operations.

They are trying to develop objective data, both physiological measures and, to the extent possible, performance related data that will allow sort of a rational approach to looking at this whole flight and duty time question.

So, I think I am confident in the future we will both be able to do a better job of evaluating the role of that in accidents and also be able to do a better job of defining appropriate flight and duty standards.

Mr. MINETA. Does the NTSB have a view of whether major airlines take on or should take on any responsibility for safety of the commuter that flies aircraft with that major carrier's colors, name, and logo and with the passengers' tickets indicating that it is a major carrier's flight, even though the major carrier may not own the commuter?

Now, I cite from your own testimony on page 20 a Trans-Colorado Swearingen metro under lease to Rocky Mountain Airways operating as Continental Express. This is a three-cornered biliiard shot if I have ever seen one. How do we achieve a high degree of accountability if this is being handed off from one person to another?

Yet, the passenger is under the impression that they are flying Continental Airlines.

Mr. LAUBER. It is a difficult issue to deal with. Clearly, the proliferation of code sharing agreements has raised this question. I think there is some tendency, at least among some of the airlines involved, to treat these as being strictly marketing agreements.

Obviously, the legal responsibility is going to have to reside with the certificate holder, and that is the basis on which the system operates. I think, though, that we have to do whatever we can to encourage more direct and active exchange of information.

It can be in the form of safety audits, management consulting kinds of arrangements. There is a whole host of avenues that can be explored as far as making sure that there is effective communication between the partners involved and that when it comes to such things as flight standards and training programs that the commuter partner in fact comes up to the standards expected by the major.

Mr. SKAGGS. Would the chairman yield on that?

Mr. MINETA. Absolutely.

Mr. SKAGGS. Thank you, Mr. Chairman.

Just to follow up, there presently is no requirement for particular disclosure or disclaimer to a passenger being ticketed on an affiliate, is there?

Mr. LAUBER. None that I am aware of.

Mr. SKAGGS. Would that at least be a recommendation that would be appropriate in this area so that the flying public is thoroughly advised and informed of the lack of any responsibility and interconnection on safety or other management matters between the two affiliates?

Mr. LAUBER. This is really not an issue that I think the Safety Board would directly become involved in. As a consumer, I think it is a legitimate question.

Mr. SKAGGS. Thank you, Mr. Chairman.

Mr. MINETA. Mr. Skaggs, I believe we do have some requirement on that.

Well, Dr. Lauber, let me thank you for your presence here as well as Mr. Schleede and Mr. Laynor. We do appreciate the professionalism with which NTSB approaches their work. Just last week, we had the opportunity to get the bill on the NTSB reauthorization through. We would like to be a little more generous with your staffing and the other requirements I know that you have. But you do have a very fine staff, and I want you to express to the staff and members of the NTSB how much we really appreciate all the hard work that all of you do.

I know you have to respond to airline accidents as well as other types and I have seen instances where three things are happening at one time, but all of you seem to juggle that very well, and I just want you to express to the Board and staff members my appreciation for all the hard work.

Let me call on my very good friend, Mr. Inhofe.

Mr. INHOFE. Thank you, Mr. Chairman.

I just have one question, Mr. Lauber. I may have misunderstood, but when I came in, you were discussing some of the ground proximity warning systems, and you had given an approximate cost.

It was always my impression—I was under the mistaken impression—that these were required on commuter airlines. What is your understanding of the cost of such a system?

Mr. LAUBER. Mr. Laynor?

Mr. LAYNOR. Well, they are not required on commuter airlines. They are required under part 135 operations only for turbo jet aircraft, and there are very few of those used in commuter operations.

There really is no system developed that is appropriate in both size and cost today for the off the shelf purchase for installation on a commuter airplane.

Mr. INHOFE. Are we just talking, Mr. Laynor, about a radar altimeter with an audio warning on breaking minimums? Is that correct?

Mr. LAYNOR. No, the full ground proximity warning system provides a bit more information than that. It combines the information from the barometric altimeter with the radio altimeter, and it provides several different modes of operation, a high sink rate near the ground, a low sink rate but approaching rising terrain, a glide slope deviation.

There are devices that are much simpler which do provide just radio altimeter information verbalized, and you can set them to provide an oral indication of height above the ground, and they are accepted on Part 135 turbo jet aircraft as a substitute for ground proximity warning.

Mr. INHOFE. I really think that I would like to get into this, not at this meeting, but I would like to investigate this, because I know the cost of those simple radar audio systems which are really pretty infallible is considerably less than the cost that we were talking about here.

On page 10, you refer to three accidents where the planes were flown into terrain under controlled flight conditions. It would appear to me that the very basic radar altimeter with the audio responder would have prevented that type of thing. I can't imagine that anyone would be flying without one even in general aviation.

Mr. LAYNOR. Well, of course, there are such devices made and they are installed on aircraft today. We have not evaluated how much of a warning such a device might have given to an aircraft that had a high sink rate perhaps and approaching the ground quickly.

We haven't evaluated that in the context of these accidents. We have looked at the performance of ground proximity warning devices using a logic which parallels the air carrier logic to evaluate how much warning would be given in most of our commuter accidents, and we find that most of them would have had enough time and conditions were such that the aircraft could have avoided ground impact.

Mr. INHOFE. It is interesting. Thank you, sir.

Thank you, Mr. Chairman.

Mr. MINETA. If there are no further questions——

Mr. LAUBER. Mr. Chairman, if I may, I would just like to thank you for your kind comments, and I assure you that I will take those kind words back to staff. You are quite right; they are hard working. I think most of them would find it a luxury when there are only three on-going simultaneous activities.

They are split many ways, and they are hard working. It is very nice and gratifying to know that their efforts are appreciated, and we appreciate this committee's support and your support especially.

Thank you.

Mr. MINETA. Thank you very much, Dr. Lauber.

[Mr. Lauber's prepared statement follows:]

TESTIMONY OF JOHN K. LAUBER, MEMBER, NATIONAL TRANSPORTATION SAFETY BOARD

Mr. Chairman, I appreciate the opportunity to be here with you today to discuss the safety of the commuter airline industry.

Aviation safety overall received a great deal of attention in the past year, due in large measure to several highly publicized Part 121 air carrier accidents.

Less visible, but of equal concern to the Safety Board, were three recent accidents involving scheduled part 135 operators: the November 1987 crash during a landing approach of a Ryan Air Beech 1900 in Homer, AK, killed 18 people; the January 1988 crash during an instrument approach of a Trans Colorado Swearingen SA-227 near Durango, CO, killed nine; and the February 1988 crash after takeoff of an AVAir Swearingen SA-227 at Raleigh-Durham, NC, resulted in 12 more fatalities.

After compiling record-low numbers of accidents and accident rates in 1986, commuter airlines last year had the highest number of fatal accidents since 1979 and the highest number of accidents since 1980.

Although there were many factors that contributed to the increased accident rate and many of the accident investigations are not completed, a review of preliminary information reveals some similarities between these and previous commuter accidents. Additionally, the Safety Board is concerned that some issues we are uncovering in these most recent investigations are identical to those we have highlighted in the past.

For this and other reasons, we think it is timely to review commuter airline safety. Although Part 135 commuter airline operations are not of the scale and magnitude of Part 121 major airline operations, they have become an integral part of our commercial aviation system under economic deregulation. Commuter airlines provide air carrier service to a large segment of the American public that is not served by the major carriers.

The Safety Board's review of commuter airline safety has centered primarily on accident investigations, although we have previously conducted two special studies in an effort to identify and focus on recurring problems.

In 1972 we issued the "Air Taxi Safety Study" which resulted in 27 safety recommendations to the Federal Aviation Administration [FAA] and the former Civil Aeronautics Board [CAB].

Subsequent to the study the Safety Board devoted increasingly greater attention to commuter airline safety, commensurate with the rapid growth of the industry. Between 1977 and 1979, there was a disturbing increase in commuter accidents and passenger fatalities. The causes of these accidents frequently involved institutional safety deficiencies in operational, maintenance, and training programs rather than factors unique to specific operators; safety problems which were similar to those highlighted in the 1972 special study.

As a result of its concerns, the Safety Board conducted another special study, released in 1980, on "Commuter Airline Safety." Five recommendations previously issued were reiterated and 12 new ones were issued to the Federal Aviation Administration. The recommendations addressed:

—Pilot minimum qualifications and training;
—Flight and duty time of crew members;
—CVR/FDR equipment in commuter operations;
—FAA inspector/surveillance deficiencies;
—The need for commuters to use actual rather than estimated passenger weights in determining weight and balance in certain airplanes;
—Better qualified flight dispatch personnel;
—Single pilot IFR operations; and
—Improvements to airports served by commuters.

We will submit a complete copy of this recommendation letter, and the FAA's response, for the record.

In 1985 and early 1986 the Safety Board investigated three major commuter accidents that once again exemplified some of the problems addressed previously. These accidents involved a Bar Harbor Airlines Beech 99 that crashed in Auburn, Maine, a Henson Airline Beech 99 that crashed at Grottoes, Virginia, and a Simmons Airlines Embraer that crashed in Alpena, Michigan.

The similarities in these three accidents were striking: they all occurred during precision [ILS] approaches in instrument meteorological conditions and the pilots did not report any airplane or equipment problems prior to the accident (and no

evidence of such was found during the investigations). Thus the Board's analyses of these accidents focused on the performance of the flight crews, crew experience and training, FAA oversight and the potential safety enhancements offered by ground proximity warning systems [GPWS] and other devices.

These investigations prompted the Board in October 1986 to issue 21 additional safety recommendations to the FAA and four to the Regional Airline Association [RAA].

These safety recommendations can be broadly categorized in the following areas:

—Pilot training and testing standards;
—Flight check standards;
—Cockpit instrumentation and equipment standardization;
—Availability of navigational and approach charts;
—Pilot experience, cockpit coordination, pilot scheduling;
—Ground proximity warning devices;
—FAA surveillance;
—Cockpit noise and crew coordination;
—Nighttime runway visibility markers; and
—Air traffic control services and procedures.

Again, we will submit the formal recommendations and the FAA's response for the record. At this point, I think it would be useful to summarize the Board's major concerns and to provide you with an update of progress in bringing about corrective measures.

PILOT TRAINING, TESTING AND FLIGHT CHECK STANDARDS

In two of the accidents the air carrier involved permitted pilots to continue an approach during line operations when ILS glideslope and course deviations exceeded those which were prescribed as acceptable during training. Moreover, the POI for Henson Airlines stated that he could not impose a line operations standard that was more rigid than the standard described in the Instrument Pilot Airplane Flight Test Guide. However, 14 CFR 135 requires that commuter airline captains must hold an airline transport pilot certificate; the ATP Flight Test Guide prescribes a more stringent standard than either the FAA POI or Henson Airlines required pilots to adhere to, that is to use as a requisite for a missile approach, during line operations.

The Safety Board also found the FAA Air Carrier Operations Inspector Handbook to be vague with respect to requirements for commuter first officers to demonstrate instrument proficiency.

In response to NTSB recommendations, the FAA amended the 14 CFR 135 pilot initial, recurrent, and instrument proficiency testing requirements and has issued an Air Carrier Operations Bulletin establishing for inspectors the requirements for commuters regarding missed approach procedures. These recommendations were closed with acceptable (or alternate) action. In addition, the RAA, in cooperation with the FAA, has developed and disseminated to member airlines specific maneuvers and procedures for Part 135 pilot (PIC and SIC) training and testing and they are participating in a joint industry/FAA task force to rewrite Part 121/135 pilot training, checking, and qualification requirements (scheduled for completion this fall).

One persistent problem facing the commuter airline industry has been the lack of affordable simulators with which to conduct pilot training. The safety and training benefits of simulators have been well demonstrated by the major air carriers, but because the cost of a full flight simulator significantly exceeds the cost of most aircraft flown by the commuters, these benefits have been largely unavailable to them. Compounding the problem is the fact that until very recently, the FAA would not allow training credits for the use of other less expensive, but still useful, training aids and devices.

The FAA recently issued two Advisory Circulars addressing the issue of Advanced Training Devices, and has approved the use of these devices for some of the required Part 135 pilot training. If additional training and checking credits for these devices are approved, significant improvements can be expected in commuter airline pilot training and checking programs. The Board is also aware that a few flight simulators are available for use by the commuter industry, and we continue to encourage the more widespread utilization of these devides.

COCKPIT INSTRUMENTATION AND EQUIPMENT STANDARDIZATION

Another factor we found in all three accidents is the nonstandardization of instruments, radios and displays. At Henson Airlines, for instance, five of their eight Beech 99s were equipped with a third independent VHF navigation radio (in addi-

tion to two others) located on the first officer's instrument panel. Other airplanes were equipped with slaved or partially-slaved third navigation radio displays on the first officer's panel. The radios were not identical and the navigation display location was not standardized.

On several of the airplanes with independent third navigation radios, the radios were incapable of receiving aural signals needed for station identification.

During the approach to Shenandoah, the first officer may have been using her ILS deviation indicator believing that it was slaved from the captain's number one radio while, in fact, the navigation radio on her side was an independent unit and presenting meaningless information.

At Bar Harbor Airlines, the Beech 99 fleet was equipped with nonstandard ILS navigation indicators with different dot graduations showing glideslope and course deviation. The Safety Board believes that lack of cockpit standardization of the type described above could lead crews into navigational errors which could have disastrous consequences during instrument approaches.

Although standardization of cockpits can be expensive, the Safety Board believes that this safety issue must be addressed by the FAA and the commuter airlines industry. Furthermore, where it is not feasible to attain complete standardization, pilots should be trained in the specific differences that exist in nonstandard fleets.

In response to NTSB recommendations on cockpit standardization, the FAA reports that they will issue an appropriate maintenance bulletin for principal maintenance inspectors (PMI). The FAA recently published an air carrier operations bulletin to address crew training regarding nonstandard cockpits. The recommendation remains open.

AVAILABILITY OF NAVIGATIONAL AND APPROACH CHARTS

In the Henson accident, only one set of approach charts was provided in the cockpit. Company procedures called for the flying pilot to use the approach chart; thus the captain had no immediate reference to check the accuracy of the approach flown by the first officer. In the Simmons accident, both pilots had sets of approach charts but the captain's charts were left in a closed flight bag. Only one chart was in use at the time of the accident and that chart was in the possession of the nonflying pilot. The Safety Board believes that it is necessary for both pilots to have access to navigation and approach charts to assure proper crew coordination during instrument flight, and has made a recommendation to the FAA to this effect.

The FAA was not convinced that cockpit efficiency and coordination would be improved by each commuter pilot using his/her own approach chart. Instead the FAA stated their intent to take steps that would emphasize better communication and coordination between crew members. This recommendation was "closed-unacceptable action."

GROUND PROXIMITY WARNING DEVICES

In these three accidents the airplanes were flown into terrain under controlled flight conditions. The Safety Board is convinced that these and many other commuter accidents could have been prevented if a ground proximity warning device had been available to alert the crews of their proximity to the ground.

To evaluate this, the Board examined the alerting features of a GPWS product, using the flight profiles of the three accident airplanes. We found that an operating GPWS would have alerted the Henson crew 29 seconds before impact. It would have alerted the other two crews 10–17 seconds prior to impact.

A ground proximity warning system has been required on large turbine-powered airplanes since December 1975. Controlled flight into terrain accidents have become a rare event in part 121 operations since then.

This regulation does not apply to most of the commuter fleet. The FAA responded to our recommendation stating that they accepted the rationale for requiring a GPWS for aircraft operating under part 135. However, we have been informed that the associated rulemaking action has not yet been started.

COCKPIT NOISE LEVELS AND CREW COORDINATION

The Safety Board believes that in each of these accidents, inadequate flight crew coordination may have been a factor. Excessive cockpit noise levels, especially in the Beech 99, might have adversely affected the ability of flight crew members to communicate with each other.

Federal regulations require the use of two pilots in those airplanes, and company procedures require the use of specific flight crew coordination procedures. However,

neither operator had equipped their Beech 99s with an interphone system and none was required by the FAA. Both companies taught their Beech 99 pilots to use hand signals to improve communication in the cockpit.

We believe that excessive cockpit noise levels precluded effective oral communications and contributed to a reduction of communication between crewmembers on the two Beech 99 accident flights. The Board believes that a functioning interphone system should be required in airplanes with excessive cockpit noise levels.

In response to our recommendations on this subject, the FAA stated that there was no need for a cockpit noise survey on the part of the FAA and that it considered inter-cockpit communications problems a matter to be resolved by the operators. Further, they did not consider cockpit noise to be a problem in the Beech 99. The Safety Board considers the FAA response unacceptable and is maintaining these recommendations in an open status.

PILOT EXPERIENCE, COCKPIT COORDINATION, AND PILOT SCHEDULING

Another key factor cited in all three accidents was pilot experience. The captains in the Henson and Simmons accidents had been with their companies for about a year, and had only upgraded to captain shortly before the accidents. Perhaps even more important was the fact that the first officers in these accidents had been with their companies less than two months. This combination of low time in position, as well as low time in type, was also seen in the Air New Orleans accident on May 26, 1987 at New Orleans International Airport. We found that the fact that *both* crewmembers had limited experience in type was a contributory factor in that accident.

In the current era of rapid pilot turnover and the hiring of less-experienced pilots in the commuter industry, this question of pilot experience is becoming even more critical. It is clear that some sort of operational restrictions should be applied in these circumstances, and the Board is pleased to note that the RAA has recommended to their member airlines that they implement firm company policy that: (1) the Pilot in Command make all takeoffs when the weather conditions require the use of lower than standard takeoff minimums; and (2) that the PIC make all landings when adverse or marginal weather conditions exist."

Another approach to the problem would be to avoid scheduling two pilots together when both have limited time in type. It is recognized that this is not always possible when an air carrier upgrades to new equipment, and that it runs counter to a strict seniority policy. However, it is clear to the Board from accident investigations that pairing inexperienced pilots together runs counter to good safety practices.

One of the recurrent problems seen in these commuter accidents has been the lack of adequate crew coordination. We believe that inadequate attention has been given to the need for effective cockpit resource management training, and that this becomes especially important in an era of relatively low experience levels and high pilot turnover. To some extent, effective cockpit resource management training can help offset some of the problems related to inexperience by improving teamwork in the cockpit. The RAA has long taken an active stance in promoting the development and application of such programs, and the Board continues to strongly recommend more widespread crew coordination training in the commuter industry.

FAA SURVEILLANCE

The Board believes that one of the underlying problems with respect to pilot experience is the FAA's surveillance of check airman programs. The Board found inadequate knowledge by senior instructor pilots about standards for line flying at Bar Harbor Airlines, less than adequate instrument training methods used at Henson Airlines, and a sudden surge in checkride failures at Henson which we believe were related to deficiencies in the training and checking programs.

The Board believes that these are indicative of inadequate training and standardization of check airman. For example, the Board's investigations revealed that the principal operations inspector (POI) at Henson had not monitored any Beech 99 checkrides for 3 months, and that the POI at Bar Harbor Airlines had not monitored any Beech 99 checkrides for at least five months.

Some of the deficiencies we noted in pilot training may be due to the absence of effective FAA oversight of check airman programs, which has prevented the detection of inadequate pilot supervision in line flying, and the failure of crew members to adhere to established procedures and company standards.

Another factor in all three accidents was the POI's available time to monitor the airline. Two of the POIs were involved in preparation for the airline to begin operations with a new airplane. These tasks occupied about 90% of their time. The third POI was responsible for surveillance of 20 certificate holders.

The Safety Board long has maintained that a sufficient margin of safety in air carrier operations can only be achieved through effective surveillance by FAA inspectors. However, we continue to find evidence in our accident investigations of spotty and ineffective FAA surveillance of commuter airlines.

The Safety Board believes that the FAA should strengthen its oversight of the check airman program to assure that both training and checkrides by designated check airman are uniformly performed to the highest standards. The Board has seen little evidence of FAA action to put any special emphasis on Part 135 check airman programs since the accidents mentioned. The Safety Board is aware, however, that FAA's Project SAFE (Safety Activity and Functional Evaluation) represents a comprehensive program to revamp management of its Flights Standards responsibilities. This program includes new inspector job task analysis, new staffing standards, enhanced training programs and expansion of the surveillance objective. It is important to note, nevertheless, that this program and staffing increases will not be completely implemented until the early 1990s.

RECENT ACCIDENTS

On April 6, 1988 in Anchorage, the Safety Board convened a public hearing to explore the safety issues involved in the Ryan Air accident that happened at Homer, Alaska on November 23, 1987.

Since the accident, findings from our accident investigation, along with financial problems, have resulted in the suspension of the operations of the airline, formerly the largest commuter air carrier in Alaska.

Among the Board's concerns was the fact that a Ryan Air instructor, who was a crew member on the accident flight, apparently played an active role in the improper loading of the airplane.

Safety Board and FAA records revealed that there had been ten accidents and 22 enforcement actions involving Ryan Air since 1980. The adequacy of FAA enforcement and surveillance of Ryan Air operations before the accident were explored at the hearing and will be analyzed thoroughly in the final accident report.

Another recent commuter accident which raises FAA surveillance issues was the February crash of an AVAir SA-227 after takeoff from the Raleigh-Durham Airport in instrument meteorological conditions.

Hindering the investigation is the absence of cockpit or flight data recorder information. As this Committee is well aware, CVRs and FDRs are not required for this airplane. However, if the FAA finalizes its current proposed rulemaking in this regard, lack of information rarely will hinder Safety Board investigations in the future.

The takeoff weather minimums were above those approved for AVAir. However, the first officer, who was controlling the airplane, had not been trained for minimum visibility takeoffs. The airplane crashed in a descending right turn. Examination of the fragmented wreckage of the airplane has not revealed evidence of powerplant or control problems. Training records indicated that both pilots had experienced difficulty in training at AVAir. The captain, who had flown the SA-227 as a first officer, had trouble in captain upgrade training in another airplane. He was returned to the SA-227 where he satisfactorily completed his captain upgrade training.

The first officer had trouble transitioning from the SA-226 to the SA-227, apparently because of poor basic airmanship skills. She had failed two checkrides and had been recommended for separation by a company check airman before she was given a third chance and successfully completed her first officer training. In addition, she had not flown for five weeks until the two days before the accident. The accident flight was her first in instrument conditions since her return.

The financial condition of the company apparently was tenuous in the months preceding the accident; it had ceased operations and filed for Chapter 11 bankruptcy protection, necessitating the furloughing of a number of company personnel in January. The company resumed operations on February 3 after obtaining new financing from the parent corporation of American Airlines.

The captain had been recalled from his furlough on February 3; the first officer had been recalled on February 17, two days before the accident.

Our investigation of FAA surveillance of AVAir is continuing. However, based on preliminary findings, it appears to have been inadequate. For example, the POI had not observed an instructional flight or a flight check in the six months prior to the accident; neither had he met with key AVAir operations officials who had assumed their positions in January due to turnover at the company.

The AVAir and Ryan accident investigations both are ongoing and the Safety Board has made no determinations of probable cause in these cases. Nonetheless, we are concerned to find that in both of these accidents pilot proficiency problems, financial weakness of the carrier and apparent FAA surveillance inadequacies were present in combination. We are concerned further that operational and training problems may be symptomatic of commuter airlines with financial weakness, and that inadequate FAA surveillance allows such problems to go undiscovered and untreated.

If the FAA is to carry out its regulatory responsibilities effectively, it must maintain an active and aggressive role in surveillance and enforcement activities to assure that the commuter airlines are adequately selective and properly training and checking their pilots. Any less from the FAA could permit a deterioration of commuter airline safety to an unacceptable level in this very competitive and challenging economic environment.

I want to briefly mention other areas of concern regarding FAA responsibilities for commuter airline safety.

The Safety Board investigated two fatal commuter accidents involving CASA-212 airplanes in 1987, the first in Detroit in March, and the second in Mayaguez, Puerto Rico in May. Both accidents involved a loss of control of the airplane in final approach to land in good weather conditions. The accidents raised concern at the Safety Board regarding the stall characteristics and stall warning certification of the airplanes. The Board issued safety recommendations to the FAA, and the FAA reports that they have initiated actions to correct these deficiencies.

While it is encouraging that the FAA Administrator last month ordered a special inspection of the nation's commuter airlines to determine compliance with federal aviation regulations, based on past experience we cannot assume that this will solve the problems. We will be closely monitoring the FAA's progress in carrying out its special inspection and seeing to it that problems are identified and rectified.

One final area that deserves mention is an issue that recently showed up in our investigation of a commuter accident in January in Durango, Colorado. A Trans Colorado Swearingen SA-227 Metro under lease to Rocky Mountain Airways, operating as Continental Express, crashed during a night VOR/DME non-precision instrument approach to Durango.

Post accident toxicological tests conducted on samples taken from the flight crew were positive for cocaine in the system of the captain. I want to make it very clear that this investigation is ongoing and that the Safety Board has made no determinations regarding drug factor involvement in the probable cause of this accident.

I mention this issue because of the Board's concern—and that of everyone in the transportation industry—that we must be vigilant in keeping drug and alcohol abuse out of commercial transportation.

Although the air carrier industry has an enviable record of being virtually drug-free in this country, we need to be in a position to spot any change in this excellent record. Thus the Board has advocated mandatory drug testing in all modes of transportation. But rather than calling for random testing, which would not target the potential abusers, the Board believes that a program that includes pre-employment screening, "for cause" and post-accident testing would be more effective in singling out those who may be a danger to the traveling public.

In conclusion, I would underscore what I said at the beginning of my testimony that by and large, the recent commuter accidents seem to involve the same issues and problems that we have seen in previous accidents. Although some progress has been made in correcting some of the previously noted problems, much remains to be done. Furthermore, pressures created by the rapid expansion of air transportation in general have created additional safety-related problems, most notably, an instability in the pilot and supervisory workforce.

I would also note in closing that a major policy issue seems to be raised by current trends in the commuter industry. Specifically, I am referring to the proliferation of code-sharing arrangements between many major and commuter airlines. Although many in the industry view these as strictly marketing agreements, I believe there are legitimate questions about whether these agreements should address operational and safety issues as well.

Many of the safety lessons to be learned from recent commuter accidents have been long known to the majors. Such fundamental issues as the need for stabilized approaches, well defined missed approach criteria, and the appropriate distribution of approach charts are well-understood by the major air carriers. I believe we have to encourage the exchange of such information through enhancements in the operating relationships between code-sharing partners.

This concludes my formal statement. We will be pleased to respond to your questions.

Mr. MINETA. At this time, I would like to call on our very distinguished Administrator of the Federal Aviation Administration, Mr. T. Allan McArtor.

Mr. McArtor, your statement will be made a part of the record. So, please go ahead and introduce your colleagues. You may proceed.

TESTIMONY OF HON. T. ALLAN McARTOR, ADMINISTRATOR, FEDERAL AVIATION ADMINISTRATION, ACCOMPANIED BY ANTHONY BRODERICK, ASSOCIATE ADMINISTRATOR FOR AVIATION STANDARDS; AND WILLIAM HENDRICKS, DIRECTOR, OFFICE OF AVIATION SAFETY

Mr. MCARTOR. Thank you, Mr. Chairman.

With me are Mr. Tony Broderick, Associate Administrator for Aviation Standards; and Bill Hendricks, our Director of Aviation Safety.

Mr. Chairman and members of the subcommittee, I appreciate very much having the opportunity to appear before this subcommittee today to discuss commuter airline safety. I know the members of this subcommittee share my deep concern over the accident record last year for the commuters and my conviction that we do all that we can to prevent a repeat.

The accident record experienced by the commuters last year was, in a word, unacceptable. After a record low number of accidents in 1986, the commuter airlines experience 33 accidents and 58 fatalities in 1987, the highest total since 1980 when there were 38 accidents and 1979 when there were 66 fatalities.

The accident rate per 100,000 hours more than doubled what we saw in 1986. So far in the first three months of this year, there have been 6 commuter airline accidents in which 21 persons died compared to 8 accidents involving 19 fatalities for the same time period last year.

Last year's safety record for the commuters is a significant departure from the positive trend we have seen developing for the commuters since 1980, despite record growth in the commuter airline industry. Passenger traffic on commuters has increased 11.2 percent annually from 1980 to 1987, from 12.9 million enplanements to 27.2 million.

Revenue passenger miles have more than doubled as well. The number of commuters has fluctuated from a high of about 245 in 1980 to today's roughly 170 operators, although these numbers are somewhat misleading because, in any given year, new operators enter the field while some old ones cease operations.

Anticipating strong commuter growth as a result of deregulation and out of concern over a poor safety record for commuters, the FAA totally revised and upgraded its Part 135 operating regulations for commuter airlines in 1978. Every existing commuter was recertified to those higher standards, and every new commuter since has had to meet those higher standards.

Those regulatory changes, coupled with recognition of the need for improvement within the commuter industry and improvements

in FAA's inspection programs, brought about substantial change in the level of safety afforded by commuter operators in this decade compared to the end of the last decade. In fact, the historical safety record for commuters has gotten steadily better.

In light of the substantial success we have seen in commuter safety, the temporary reversal of this trend stands out even more. The logical question to ask is, what has caused the surge in accidents we experienced last year?

One answer you may hear is that it is because of the lack of experience of commuter pilots. Since we all know that there has been substantial turnover among commuter pilots, this approach has a ring of truth to it and has the benefit of identifying a simple problem we can all understand.

A preliminary analysis of statistical data available on most of the pilots involved in the commuter accidents last year, though, doesn't lead to that conclusion. The average total flight time for 28 of the 33 pilots was 7,722 hours. The average time in the type of aircraft operated for 26 of the 33 pilots was 1,090 hours, and for the pilots on which data was readily available, 28 of the 33, all were current in their aircraft.

We have also taken a look at other factors associated with the 33 accidents last year, although we must await the NTSB's findings as to probably cause for individual accidents. Our assessment shows that 11 of the accidents occurred in Alaska, 15 were single pilot operations, 14 involved piston aircraft operations, 10 occurred during night hours, 25 occurred during visual flight rules conditions, 14 occurred on landing, 3 occurred during cruise or inflight maneuvering, 3 occurred while taxiing, and 1 occurred while the aircraft was parked on the ground.

We are examining this and other data to help us achieve needed safety improvements.

In fact, we are currently following three paths to ensure that commuter airlines provide the traveling public with the highest levels of safety: One, an indepth inspection of commuter operators; two, a review of the regulations governing commuter operations; and, three, an upgrading of pilot training, including an emphasis on cockpit resource management programs.

I would like to briefly elaborate on each one of these areas.

I recently ordered a year-long, indepth inspection of commuter operators to help us ferret out whatever problems may exist. Phase one of this effort, to be completed by the end of this month, consists of analyzing all data available to us to determine the operators to be inspected and the problem areas which will provide the focus of the inspections.

We anticipate scheduling about 30 operators or about 20 percent of the industry for in-depth inspections.

Phase two of our inspection plan will be completed by September 30. During that time, we will assemble teams of FAA inspectors, schedule, and inspect the approximately 30 operators.

Phase three will be completed by December 30. During that phase, we will issue a final report. We will also apprise all of our principal inspectors of our findings and recommendations and ask them to work with their assigned operators to correct problem areas.

Naturally, any safety problems noted during the course of our inspections will be immediately corrected and will not await the completion of a final report.

This intense inspection activity should tell us a lot about the current compliance with our safety regulations by operators and will help us pinpoint areas where we may need to stress additional surveillance or follow-up activity in the future.

We are also examining the regulations which govern commuter operations to determine whether changes should be made. There are some areas where, because of historical differences between the operations of the major airlines and the commuters, there are differences in Part 121 and Part 135 regulatory requirements. We will be looking at those differences to assure ourselves that they are, in fact, justified and will propose appropriate amendments when we conclude that they are not.

The third path we are following applies to both pilots under Part 121 and commuter pilots. That concerns my effort to upgrade air crew performance. This is one of my first initiatives with the FAA and a major component of Impact 88.

I expressed concern early in my tenure as Administrator about the need to take steps to increase professionalism in our air crews, and we immediately set out to do just that. In conjunction with the industry, we are currently working on a complete revision and upgrading for pilot training requirements which will comprise the first significant change in this area in 30 years.

We want to increase use of simulation to increase pilot skills and abilities to better cope with adverse weather and emergency situations which are difficult or unsafe to duplicate during actual training flights. We have recently issued an exemption to the commuters to permit them to make greater use of advanced training devices in recurrent pilot competency and instrument proficiency check requirements and believe this is an important step in the right direction.

We are developing cockpit resource management training guidance along with draft regulations. In fact, I have already been provided a draft advisory circular concerning cockpit resource management by one of our task force groups working in the pilot training area.

We are trying to determine the feasibility of combining human factors concepts with job task analysis which sets out the detailed functions required to perform air crew duties as a means of producing better training standards as well as improved cockpit and air crew certification standards.

Specialized groups of the FAA/industry task force are addressing a variety of issues related to flight crew professionalism, the need for vigilance and discipline in the cockpit, and improved means of training flight crews. Our plans call for a draft of improved air crew training standards this fall.

I feel strongly that the most important steps we can take to improve safety are to enhance air crew performance. That will provide the largest safety benefits in the long run. I have often said that the most important wings on the airplane are on the pilot.

In closing, Mr. Chairman, I want to stress that none of us can be satisfied with the commuter safety record. We must all do what we can to achieve needed improvement.

I am confident that the steps we are taking within the FAA will help us better define the nature of the safety problem and identify the appropriate solutions. We cannot and will not accept a repeat of last year's safety performance.

That completes my prepared statement, Mr. Chairman, and I would be pleased to respond to questions at this time.

Mr. MINETA. Thank you very much, Mr. McArtor.

In his testimony, Dr. Lauber cites a number of recent accidents where FAA surveillance is significantly lacking. He cited the specific case of the Henson accident where check rides by the principal inspector had not occurred for some months.

Dr. Lauber's further statement was, "to this day, we (the NTSB) continue to find evidence in our accident investigations of spotty and ineffective surveillance of commuter airlines."

How do you respond to this characterization and what are you doing to attempt to remedy this safety problem if it is, in fact, a problem that does exist?

Mr. MCARTOR. Mr. Broderick.

Mr. BRODERICK. Mr. Mineta, one of the things that we hope to have to the field by the end of this week is specific guidance on monitoring check rides and training flights. We have to ensure that this is placed as a top priority for commuter inspectors. This new guidance will be in addition to the national work program guidelines issued to our inspectors.

We agree that we need to continue to improve our surveillance program. This committee has been extremely supportive in our attempts to increase staffing and provide the needed guidance material and training materials to our inspectors.

The quarterly reports that we provide to this committee indicate substantial progress though not completion yet of our activities under Project SAFE which, as you know essentially rebuilds from top to bottom the entire surveillance and enforcement program within flight standards.

The commuter airline trends that we have seen over the last year gives us cause for concern that we need to move quickly to understand those trends and understand what we can do better. The one thing that the National Transportation Safety Board has pointed out and we heartily agree that we can do better is to do more riding in the cockpit. We are going to do that.

Mr. MINETA. Since 1985, the FAA has instituted an effort where airlines and other aeronautical concerns receive a periodic in-depth inspection by a team of inspectors. These inspections can last a few weeks. These are inspections usually not prompted by any particular concern, but are a way the FAA is now conducting its business, a safety audit, I guess, if you will.

Outside of the inspection effort that you announced in March on the commuter industry, has this national inspection program extended to the commuters?

Mr. MCARTOR. Yes, Mr. Chairman. Our indepth review of the commuter industry and the programs, processes, and surveillance

of the commuter industry was in addition to an already existing inspection program with respect to the commuter airlines.

We do intend, though, to investigate the effectiveness of these inspections and are doing so right now with an executive group within the FAA to understand whether our surveillance, inspection, and enforcement programs are as effective as we wish them to be and what we might do to make them more effective.

Mr. MINETA. Financial weakness appears to be an issue in some accidents. How does the FAA stay on top of the financial condition of the commuter airlines and is this a responsibility of the principal inspector, or is this DOT's responsibility? How is it split?

Mr. MCARTOR. The Department of Transportation is tasked with establishing fitness of the air carriers. However, just like we do with the Part 121 carriers, we do have what we consider to be, as referred to in previous testimony, certain warning signs of financial difficulty.

There is no question that many of the commuter airlines are somewhat thinly capitalized and are subject to more financial pressure in a bad month or a string of bad months than other carriers. Our inspectors are alerted to these warning signs and, of course, we focus our resources where we see these.

Mr. MINETA. Does that authority come from the FAA or is that DOT's?

Mr. BRODERICK. That is the Department of Transportation, sir.

Mr. MINETA. Now, the NTSB has made recommendations that ground proximity warning systems, be required on commuter aircraft. Is there any reason not to require them, and do you have any plans with regard to the GPWS?

Mr. MCARTOR. As previously indicated by the representatives of the NTSB, we are up against a practical and engineering limit here with respect to the commuter airlines. It would be disappointing, though, to think that we would have a requirement or at least a technology that would be beneficial to us in the safety area and have a technological or financial barrier to implementing that technology.

I think it is something that we should reinvestigate as to the feasibility and probability of having ground proximity systems on commuter aircraft, and I am certainly willing to do that.

Mr. MINETA. Now, the NTSB has also cited problems in standardization of cockpits and instruments. Are stronger regulations needed in this regard?

Mr. BRODERICK. Mr. Chairman, I think the actions that we have taken in response to the NTSB recommendation should see some changes in those areas. We have taken two specific ones.

One is to alert both the maintenance inspectors through our internal agency systems of action notices and alert bulletins and the principal operations inspectors of their respective responsibilities. In the maintenance area, we certainly want to minimize the amount of non-standardization from aircraft to aircraft.

But perhaps more importantly, we have to recognize the inevitability of some non-standardization. To this end we issued on November 6, 1987, an Air Carriers Operators Bulletin in which the principal operations inspectors were directed to review their as-

signed air carriers in order to ensure adequate cockpit standardization and differences training.

I hope we are going to see that that addresses that issue rather than a need for a regulatory change in it. If it doesn't, though, of course, we will look into what regulatory changes would be needed.

Mr. MINETA. Not only do we have a case of standardization of instruments and cockpits, but this whole issue of procedures on, for instance, even the use of the approach chart. I am just wondering, when we talk about human resource management, is this a training issue?

Is it a pilot qualification issue? Where do we come down on this so that we do have some modicum of how to deal with this so that no one is saying an Alphonse and Garcon kind of approach as it relates to approach charts?

Mr. MCARTOR. Clearly, that is one of the things we would like to learn from our study. When we talk about the commuter airline industry, we are talking about a very broad spectrum of aviation, different types of aircraft, flying different kinds of city pair missions, and then vastly varying operating environments.

So, we want to try to truly understand the relationship of the crew one to another, the assertiveness training required, and the cockpit resource management training required so that they can effectively operate as a crew. We certainly don't want them in the cockpit acting only as individuals, and I think that has been the genesis of some of the problems we have seen in the major carriers as well as commuters over the last couple of years.

Mr. MINETA. And what about the use of the interphones so that it is not just two people trying to communicate with each other given the noise level in the cockpit. Let me ask, first of all, are interphones required on helicopters?

Mr. MCARTOR. They are used, but to my knowledge, there is not a requirement. It is basically an operating necessity for the helicopter environment.

Mr. MINETA. And it makes good sense to have an interphone system, does it not, on a helicopter?

Mr. MCARTOR. Yes.

Mr. MINETA. Now, why would it not make also "good sense" in a commuter aircraft? The noise level is such that it is——

Mr. MCARTOR. In some commuters, I would agree with you that it would be prudent to use headsets, and we have established that.

Mr. MINETA. A Saab 340 may not require it, but a Beech 99 might. It seems to me that somehow maybe without mandating it, something ought to be done to improve that communication.

Mr. MCARTOR. We have an advisory circular activity on that.

Mr. Broderick.

Mr. BRODERICK. We do have an advisory circular in the final stages of coordination right now on that, and that should provide the kind of guidance that you are talking about, Mr. Chairman. In addition, of course, we are reviewing the two NTSB recommendations that were discussed earlier today to see if, in fact, we need to go further than the advisory material.

Mr. MINETA. Now, the Air Line Pilots Association recommends changes in the commuter flight time regulations. Do you have any

concerns in this area, and are you considering any regulatory action along this line?

Mr. BRODERICK. There are slight differences in the slightly higher hours that were developed for commuter flight times under Part 135 compared to those under Part 121. They were developed, as you may recall, Mr. Chairman, in a regulatory negotiation session, as it was called, a relatively novel approach to regulatory development.

That session or series of sessions included input from all the pilots including ALPA and other union sources as well as companies and the government. The set of agreements that were reached and the regulations that were promulgated as a result of that had these slight differences.

For example, instead of 30 hours in 7 days being the limit for a Part 121 carrier applied directly to Part 135, we have 34 hours, I believe it is, in 7 days.

Those differences were ascribed to basically the shorter flight and, thus, the more frequent number of flights per hour and the increased amount of ground time that was associated with commuters back then.

This is a subject that we have under active consideration really at all times, because our knowledge of fatigue and its effect on aviation safety is only just building. We work closely with NTSB and the NASA Ames people to try to understand these things. If we can see a rational way to improve upon our flight and duty time regulations, whether it be for commuters or others, we certainly will take advantage of that.

Mr. MINETA. For a part 135 pilot to be type rated or let's say to be hired, first, do they have to have a minimum number of hours total? Is there a minimum number of hours total time?

Mr. BRODERICK. Well, you would be hired into a particular job. Of course, companies would establish their own particular requirements.

To be allowed to fly as a pilot in command, you have to have an airline transport pilot's certificate just like in Part 121 operations and a commercial certificate for the right seat.

Mr. MINETA. They have to be type certificated, et cetera.

Should there be a minimum requirement?

Mr. BRODERICK. I think I would have to agree with what Dr. Lauber said. One of the things we have to face is in the situations that we are talking about with regard to accidents. While it seems attractive to say that we ought to raise the minimums, the fact is that if you look at the statistics, the kinds of accidents that we have seen haven't established a rational kind of foundation for doing that.

If the numbers popped into my head properly, the pilot in command of the average aircraft that was in an accident last year from the statistics cited in the Administrator's statement had 7,000 hours experience while the co-pilot had about 4,000. Our minimum requirements are far lower than that. If we doubled or even tripled the minimum requirements that we have in terms of hours, we wouldn't still be touching the average pilot.

However, the question really is, are we asking the right question? Is it fair to judge experience in terms of the number of hours someone has flown airplanes?

We see indications that is not the case. We have a lot of agreement with the academic community and with pilot experts, both in management and in labor organizations as well as NTSB and NASA, that we are headed down the right track of asking the questions under the Administrator's Impact 88 program.

What we need to do is really what we are doing this year. We need to tear the entire set of standards apart, determine pilot requirement, and then build it from there, from literally a clean sheet of paper.

Mr. MINETA. Are results from the advanced training device still too early to assess?

Mr. BRODERICK. Yes, sir.

Mr. MINETA. Let me go to a question I asked Dr. Lauber. Does the FAA have a view of whether major airlines should take on or do take on any responsibility for safety of the commuter that flies aircraft with the major carrier's colors, name, and logo and with the passengers' tickets indicating that it is the major carrier's flight even though the major carrier not own the commuter? Then, go on to the second part in terms of financial responsibility.

Mr. MCARTOR. Mr. Chairman, my personal view is that this is a consumer issue. If the ticket buyer has a certain confidence in, say, a major carrier and chooses to fly that major carrier and flies a commuter with that carrier's logo on the side or some reasonable facsimile of it, they are led to believe that the major carrier has something to do with the operations and they should then share that confidence they have in that major carrier with the commuter.

So, I think it is perfectly appropriate to ask the question should there be some responsibility whether it be one of just shared oversight to assure compliance with the commuter's obligations under their own operating and maintenance certificate. I don't think you can pass accountability from one to another, but there may be some experience that could be shared.

I don't know that it has to be financial guarantees or anything else, but I think if the ticket buyer is going to look at the commuter aircraft and see a logo on the tail, I think it is fair to assume that the major has something to do with the operation of that commuter.

Mr. MINETA. Let me look at it from my perspective as the person who chairs the Aviation Subcommittee. AVAir is an American Eagle which is an American Airline operation. AVAir was in Chapter 11 and then resumes flying.

At the time that they resumed flying, did they have to satisfy FAA or DOT or just the Bankruptcy Court? Did you look at them before AVAir said they were going to start flying next Wednesday?

Mr. BRODERICK. They were only interrupted in their business for a short period of time. I do know that our people reviewed their currency and the appropriate qualifications and ensured whether or not they still had proper management.

Mr. MINETA. Yet, two weeks after they went back to flying is when they had that major crash, was it not?

Mr. BRODERICK. That is correct, sir.

Mr. MINETA. Frankly, that really shook me up. I am wondering whether or not we had—we being FAA—had looked at the AVAir situation, or did AVAir just have to satisfy the bankruptcy court in terms of their creditors before they resumed flying. Did FAA have to say anything before AVAir resumed flying?

Mr. BRODERICK. I can find out——

Mr. MINETA. Could you check that for the record? I would appreciate it.

Mr. BRODERICK. I can find out what specific correspondence we had with them and provide it to you, sir.

[The following was received from Mr. Broderick:]

FAA SURVEILLANCE OF AVAIR

On January 15, 1988, AVAir, Inc., filed for bankruptcy under Chapter 11 of the Federal Bankruptcy Code and ceased operations. On February 1, the Department of Transportation, after a fitness review, approved AVAir to resume operations.

During the period January 15-February 1, the FAA's Flight Standards District Office (FSDO), at the Raleigh-Durham Airport, monitored AVAir's proposed reorganization and verified that personnel selected for management positions met the requirements of Part 135 of the Federal Aviation Regulations (FAR). The FSDO also ensured thast AVAir crewmembers maintained proper qualifications and reviewed company records to ensure compliance with recordkeeping requirements under Part 135.63 of the FAR.

During this same period, AVAir hired a new vice president of maintenance, reassigned the director of maintenance to the position of director of quality control, and named a new director of maintenance. Because of the changes to AVAir's maintenance structure, the FSDO conducted several airworthiness inspections to determine the carrier's compliance with the FAR.

Mr. MINETA. Mr. Boehlert.

Mr. BOEHLERT. Mr. Administrator, in responding to the chairman's question about the ground proximity warning system installation in commuters, you talked about practical considerations and financial barriers which brings me to one of my pet peeves, and that is the MASSPORT plan which I refer to as the financial raping of commuters. Don't you think that is imposing a severe financial barrier for commuter airlines that are genuinely interested in upgrading their equipment and improving their performance?

Mr. MCARTOR. Mr. Congressman, I think, without question, if landing fees were to increase several fold for any user of the system, it would certainly be discouraging to that particular user.

The specifics of the MASSPORT proposal, of course, as to whether it is discriminatory or not with regard to class aircraft is being investigated right now by ourselves and the department, and any appropriate action that we might have to take, if any——

Mr. BOEHLERT. Do you have any feeling if this is a unique situation at MASSPORT, or do you believe, as I do, that this is just the beginning, that there are others—the New York Port Authority, for example, and others that are looking at that MASSPORT proposal and saying they got away with it and we are going to do it next?

Mr. MCARTOR. I firmly believe that MASSPORT is simply a first—not even a first case, for that matter— but certainly a case where it would appear that we are talking about a local airport issue when, in fact, I believe we are talking about national issues. There will be other airports which may follow suit, might feel com-

pelled to follow suit if, in fact, they believe that it is more appropriate to adopt some other pricing strategy for their particular airport.

This is exactly the situation we find ourselves in. There is an honest debate and an earnest debate occurring right now as to the appropriate role of government in an airport issue. You cannot really argue capacity, access, and noise issues without tying them all together. They are not isolated issues by themselves.

So, when we discuss access issues at airports, we are really talking about a national issue and the proper role of government, hopefully, will soon be determined.

Mr. BOEHLERT. Do you have a feeling for us on when you might complete your review on this particular situation?

Mr. MCARTOR. The Secretary has established, I believe, July 1 as his personal target to have created the department's position.

Mr. BOEHLERT. OK, thank you very much.

No further questions, Mr. Chairman.

Mr. MINETA. If that is the DOT target date, do you have a target date somewhere before that different from the July 1?

Mr. MCARTOR. Well, our staff, our counsel, and our airports people are working closely with the department staff right now on a weekly basis, so we will reach the conclusion together, I am sure.

Mr. MINETA. Mr. Skaggs.

Mr. SKAGGS. Thank you, Mr. Chairman.

Good afternoon, Mr. McArtor.

I wanted to ask you to elaborate on the data in your prepared testimony about the level of experience and experience in type aircraft that you were referring to. I didn't understand. It is on page 3 where it says "average total flight time for 28 of the 33 pilots was 7,000-plus hours."

What do we know about the other five? Was data somehow not available on those?

Mr. MCARTOR. I just don't think we had the data to include in this particular statement, Congressman. What we are seeing here, though, is an indicator and leads us to believe that maybe we are right on track with the initiative we put in place last August, and that is, as Mr. Broderick said, to really disassemble our perceptions of proficiency with respect to pilots, how we measure pilot proficiency and what the measure of merit is.

I am convinced that total flight hours is not appropriate in today's world. We need to take a look at time in type, how the training was received, and try to reach a determination of pilot proficiency separate from total flight hours.

Mr. SKAGGS. It just seemed to me that that data, as it was in your statement, anyway, remains ambiguous as to the point that you are trying to make. That is, if the pilots as to which the data was missing happen to have been involved in accidents in which there is reason to believe that there was a significant pilot error factor, then we haven't really proved anything, have we?

Likewise, if the seven incidents on which we don't have information on time in type, that could be a critical factor. So, I just don't understand what we can really infer from these data.

Mr. BRODERICK. Mr. Skaggs, let me try to take a stab at that.

Frequently, in the course of accident investigation, for some reason or other, some data just is never able to be obtained. What we did was take all of the data that we had available to us at the time and presented the information from it, averaging the data.

What we do know is that you are absolutely right. There may in fact be these kinds of situations. I think the point that we would be trying to make here is that we have no reason to believe that these data are skewed in any way and that there is any relationship between data that happens to be missing from the NTSB or FAA accident investigation and pilot experience.

We will try to get it. Actually, what we try to do in cases like this is reconstruct the data by estimate, by just talking to people who knew the pilot or co-pilot and try to build it up that way.

So, this is just preliminary.

Mr. SKAGGS. Certainly, if it turned out that in those accidents in which the data on these variables is missing also were accidents in which it appeared that pilot error was a significant factor, then there would be a significant correlation in just the reverse direction. So, I think the absence of that data really means that this could give us a misleading impression.

I don't know what your statistical review capabilities are on that, but especially with this small a sample, I think we may be drawing conclusions prematurely, and I would ask you to look into that further.

Mr. McArtor, in response to one of the chairman's questions earlier about proceeding with a requirement for ground proximity warning devices, you said you were willing to do that in terms of considering a regulatory step there. May we interpret your word "willing" to mean that you will?

Mr. MCARTOR. Well, I always don't feel on very solid ground by regulating that equipment is required by any class of aircraft if the equipment does not yet exist.

So, there are two ways to approach this, either to regulate the use of ground proximity equipment in commuter aircraft and allow a reasonable amount of time for the development of such equipment in the kinds of quantities that would hopefully drive the cost down and with reasonable specifications that would drive the cost down or to try to create an R&D program to develop the equipment first and then mandate its use.

There are certainly two ways to approach it. Clearly, if we can in fact have a ground proximity system that is appropriate for the commuter mission, it would in fact enhance safety. I will give you my personal commitment that we will continue to try to find out just what the best course of action would be to try to encourage the use of ground proximity systems.

However, I would like to have some flexibility in trying to determine just what that best course might be.

Mr. SKAGGS. I understand that. I am not saying, are you going to adopt a rule? Rather, do we have your commitment to pursue it aggressively, and I take it that we do.

Mr. MCARTOR. Yes, sir.

Mr. SKAGGS. Finally, as I inquired with Mr. Lauber, one of the factors that was disclosed after the accident near Durango this past winter had to do with one of the pilots with a record of driving

under the influence. There were some drug byproducts found, and so forth.

Are you satisfied with the system that now exists for reporting and the verification of reports of driving records and other data that give us some indication of fitness of flight crews?

Mr. BRODERICK. Honestly, the answer is no, we are not satisfied, but it is a workable system, sir. We just received the legislative authority, as you know, to have access indirectly through a State or States to the National Driver Register (NDR). We will, in fact, be changing our regulations to incorporate that requirement and that access into the regulations. Contracting with one or more States is the likely way to go so that we will have a periodic comparison of pilot records with NDR records.

We also then have to amend our regulations to have a specific penalty associated with multiple DWI or DUI convictions.

All of that is in process. We are working it as rapidly as we can, and while it is a relatively cumbersome system, we understand the compromises that had to be made at arriving at that. We think it will be a useful way of checking records.

Mr. SKAGGS. Are there currently in your regulations penalties for misreporting or inaccurate reporting that is required on the voluntary basis by pilots?

Mr. BRODERICK. Yes. Actually, the reporting isn't voluntary. There is mandatory reporting for traffic convictions and then, I think the words are "excessive drinking habit and drug" or "dependence on alcohol or drugs" is I think the way it is worded.

There are penalties for falsification. We have had, as you may know, some widespread misunderstanding and ignorance if not deliberate omission of DWI incidents being reported to the FAA. Last year, we took action to publish in the Federal Register a notice of enforcement policy which said that we were in fact going to begin enforcing the requirements that people report truthfully on DWI's in the medical applications.

As a result of that, we got approximately 8000 letters from pilots who essentially said that they didn't realize that was a requirement, and that they had these kinds of traffic infractions or these kinds of DWI's etc. So, I think it has worked and I think we have tightened the system up.

Mr. SKAGGS. What is the sanction for false reporting?

Mr. BRODERICK. Well, it could be revocation. You can take criminal action.

Mr. SKAGGS. And when do you expect to have the new system in place and running?

Mr. BRODERICK. I am afraid that, realistically, it is something like an 18-month to 2-year process to go through all of the regulatory changes and contractual arrangements that I mentioned.

In the meantime, what we are doing is working with the list of people that has been provided or will be provided by the Inspector General from the report that they did about a year ago which compared the results of FBI and NDR matches with our own pilot records. So, we actually have, though not a perfect system, an interim system that will go a long way towards solving the problem until we can get these regulatory changes in place.

Mr. SKAGGS. You are talking about two years from now or two years from the time you started the effort?

Mr. BRODERICK. Well, it is essentially the same. We just started the effort just after the legislation was enacted last December.

Mr. SKAGGS. And to what extent have you been able to enlist the carriers' assistance in getting the word out about this and helping move that along more rapidly?

Mr. BRODERICK. We have had good cooperation in the journals, magazines and professional publications. In addition to the airline labor groups special interest groups such as AOPA and Experimental Aircraft Association have been supportive. So, I think there is pretty widespread understanding of the seriousness with which we take the reporting requirement today compared to, say, a year ago.

Mr. SKAGGS. Thank you.

Thank you, Mr. Chairman.

Mr. MINETA. Mr. Inhofe.

Mr. INHOFE. Thank you, Mr. Chairman.

I thought Mr. Skaggs might be getting at, when he started off his questions, what I was kind of wondering about. When I heard your testimony, Mr. McArtor, I misunderstood you. I thought you had said of the 33 accidents that in 28 of them, the pilots had over 7,000 or so hours. You were talking about average numbers which means of those 28, 14 of them could have had 15,000 hours and the other 14 could have had 400 hours, and they would have averaged 7,700 hours.

Mr. MCARTOR. No, sir. They were all high time captains. The reason the data is not available for the others is that those investigations are still in the NTSB process. So, that information on flight hours is not in the docket yet.

Mr. INHOFE. Well, I am not as concerned about the other 5 that are missing. Would these 28 all have been over, let's say, 4,000 hours?

Mr. BRODERICK. We have the numbers here. Let me just run down some of them.

Mr. INHOFE. I would like to hear them.

Mr. BRODERICK. They are 3,885; 2,300; 9,701; 4,335; 18,000; 17,953; 4,500; 11,550; 3,577—if you want me to go on, I can, sir. However, the lowest number that I see in here is 2,138. There is another that is 2,138, and there is one that is about 2,700.

Mr. MCARTOR. Before we overstate the statistics, let——

Mr. INHOFE. Before we get into this, let me make one point. As I have read these since the inception, the NTSB bulletins and the reports of accidents, and I personally think too much emphasis has been placed on the hours pilots have flown. I have seen so many pilots develop very bad habits as they multiply their hours. And I think perhaps that has happened to me, too.

However, based on your comments, I think that you have come to the conclusion that there are many factors to consider of which pilot time is one that perhaps people talk about more than they should. Is that an accurate characterization of your feelings?

Mr. MCARTOR. Absolutely. We just don't want to be tempted to assume that commuter pilots are somehow less experienced and, therefore, that is why these accidents occurred. The time of these pilots involved doesn't bear that out.

We want to look for some other cause as well as proficiency causes.

Mr. INHOFE. And there is another thing you said that I want to emphasize, because I feel so strongly about it, and that is we are not talking about isolated issues. You can't say this is over here and this is over here, and they are not related to each other.

As you probably have been made aware, I am not in agreement with the proposed rule making concerning controlled air space, the radius, and the top level. I oppose it because I see this deterioration that I mentioned when the NTSB folks were on in participation in general aviation.

I think that if we are looking to the future of aviation and the future of commercial aviation, with what has happened in the military services, general aviation is the prime source for or it may become almost the only source for both airline and commuter pilots.

I would like to hear from you if you agree with that and if you feel perhaps we should direct our attention to making a healthier environment for general aviation rather than the punitive attitudes that we have heard expressed for the past 5 years—before you came, of course.

Mr. MCARTOR. Congressman, let me say that you have touched on several of my favorite themes. I have speeches on all of them that maybe you can catch sometime.

General aviation is, in fact, at risk in this country for several reasons. Not all of them are air space issues or whatever, but we are not as a country developing the aviation infrastructure with respect to general aviation as I would like to see it happen, from the manufacturing side, from the liability side, from pilot training, the ability of general aviation to flourish.

We also have to recognize that the frontiers are in fact moving out, and aviation is no exception to other phenomena in our society. So, these frontiers as they do seem to move out affect more and more of the flyers who have not seen rules, regulations, or equipment requirements around busy metropolitan areas.

So, we will have to have balanced rules reflecting mode C transponders or TCA's or anything else like that.

I am not pleased, either, with the rule that we have currently on the street, and I suspect that there will be some changes in response to the comments that we have seen.

However, we are taking a look at all kinds of training processes—our flight schools, we are talking to flight instructors, the Ab Initio training programs, we are taking a look at what happens after those programs, is there a standardized discipline of training that we might need to insert in there since we don't have the military disciplined training to fall back on.

All of these questions are being asked. Hopefully, by the end of this year, we will have a pretty good idea of what kind of training processes need to be established in this country and whether they need to become mandatory or not in order to hold certain classes of certificates as a pilot.

So, we are taking, hopefully, a fresh look and an honest look at these issues, but I would share your concerns about this country

developing the seed corn of aviation. I think maybe we are not doing as good a job of that as we ought to.

Mr. INHOFE. Mr. Administrator, do your field safety inspectors—I am not sure if that is the right terminology or not but I run into them all the time—do they also get involved with commuters, or are they strictly in general aviation? Do they make some of their inspections at random affecting commuters as well as general aviation?

Mr. MCARTOR. Our field offices are tasked with a broad segment of aviation, so they look at general aviation, commuters, and even major carriers sometimes, the different FAA field offices.

Do you want to expand on that?

Mr. BRODERICK. It is a geographic office, so they are staffed to handle the type of aviation activity in that geographic area. So, you would see some of the general aviation inspectors maybe looking at some of the commuter operators of the smaller aircraft, and in the same office, you would of course maybe have an American Airlines maintenance inspector, for example.

Mr. INHOFE. I suspected they had that authority, and let me compliment you on the caliber of people you have out in the field.

They have been a big help. They are doing a fine job in the field.

Mr. MCARTOR. Thank you.

Mr. INHOFE. Maybe they could be used to a greater advantage in commuters as well as general aviation.

Mr. BRODERICK. Thank you, sir, and that is exactly what I referred to earlier in responding to the chairman's question. The people that will be spending more time in the cockpits of commuter airlines are some of those very people.

Mr. INHOFE. Thank you.

Mr. MINETA. Mr. DeFazio.

Mr. DEFAZIO. Just to follow up on that, what are the limitations? Is it a policy issue where they have been spending more time elsewhere, or is it a general lack of personnel?

One of the issues that this committee has revisited a number of times in the past is an appropriate level of expenditures for various functions of the FAA, and I am curious—I realize sometimes you testify here under constraints, but if you could give us an honest answer, do you have enough of those people altogether or, in an optimal world, would you have more?

Mr. BRODERICK. In an optimal world, we would have more. In the real world, we have a plan that we have had approved by the Secretary for increasing our staff. That is a plan that goes along at a relatively even pace over a 4-year period, and we are with the 1989 President's budget request just about halfway through that plan.

So, we do in fact see a need for more inspectors. We have identified that need, quantified it, said which kinds they are, and expect that future budget years will accommodate that growth.

It certainly has been the case in the past few years. We haven't been held back either by the committees of the Congress or the executive branch or anybody in our department.

Let me expand a little further on that and say that the reason we don't have a concordance of the real world and the perfect world today is that we are in a realistic sense limited in the rate at which we can bring in and train and absorb new inspectors. We

just couldn't do it all at once. So, we laid out a 4-year plan to do that.

That was something that I think members of this committee discussed with us over the past couple of years, and, of course, you have heard from GAO and other organizations that that seemed to be a reasonable way to do things.

Let me also say that in direct answer to the first part of your question, the reason for less, if you will, cockpit en route inspections and training rides or observations of training and check rides with the commuters, in my mind, is in one word, "priority."

When we put an emphasis on something as we will be doing this week in our national program guidelines, it makes it a nationally mandatory thing that wasn't there before, and it is something that top management is putting focus on and saying look, we insist that this be done, put it into the work program, and get it done. That is the way it will be increased.

Mr. DEFAZIO. And you think that your present program will allow you to keep up the prior level of those check rides on larger commercial craft which is I guess where these people were and still meet the increased emphasis on commuters?

Mr. BRODERICK. Well, what we are doing is rearranging priorities, and I don't think we will be taking them from the larger air carriers. We will be taking them from lower priority work that we would like to have done but just will have to put off.

Mr. DEFAZIO. Can you give us an example of some lower priority work that you will put off?

Mr. BRODERICK. Essentially making people wait longer for certification and consultation kinds of activities. This is, in my mind, a safety surveillance activity, and when we identify a need for one of those, it has to take precedence over certification or expert consultation.

Mr. MINETA. Would my colleague yield on that?

Mr. DEFAZIO. Yes.

Mr. MINETA. When you made your recent announcement, you said that about 20 percent of the commuter industry would be surveyed. Why 20 percent? Is that because, again, of the limitations on the number of inspectors you have?

Mr. MCARTOR. Mr. Chairman, the study effort that we have underway this year is to try to understand whether we need to change our processes and our requirements and our measures of merit with respect to the commuter industry. About one-fifth of the commuters was a sample that we could handle in a reasonable period of time.

I wanted the answers this year. I didn't want to keep studying this thing for 2 years. I wanted the answers this year.

Now, armed with the answers, then we will be able to apply that program across the board to all commuter carriers. So, it is not like we are going to inspect 20 percent absent the others.

Mr. MINETA. So, it is not a 5-year program where there is, 20 percent each year.

Mr. MCARTOR. We want to use 20 percent to get the answer to apply to 100 percent of the carriers.

Mr. MINETA. All right. Now, does that deal both with the operations as well as the maintenance aspect or is this mostly operations?

Mr. MCARTOR. Operations, maintenance, and security, for that matter.

Mr. MINETA. Thank you very much.

Mr. DEFAZIO. Mr. Chairman, if I could pursue the security issue since the Administrator brought it up, I have a concern given the fact that we saw with the PSA tragedy that in fact people will smuggle weapons on board planes not just to hold them hostage or hijack them or divert them to a different destination but actually use the plane for a form of suicide.

I am curious, given the fact that my understanding of the current regulations and the CRF here is that the situation that prevails is that planes that carry 30 passengers or less are totally exempt, planes between 30 and 60 might, according to this, they only have to follow security procedures and need only implement them when the director of civil aviation security or a designate of the director notifies the certificate holder in writing that a security threat exists with respect to the operation, and then over 60, they are required.

I observe in Seattle, Eugene, and other places that people are allowed to go entirely around security and board these planes.

Do you have intentions of tightening this up, one, given the PSA circumstance and, secondly, I can envision other circumstances of fanatics since we are engaged in a war in the Middle East commandeering a plane and driving it into a nuclear plant or some other critical facility.

What will you be doing in this area?

Mr. MCARTOR. Our security programs in this country are designed against what is perceived to be the threat to civil aviation. The programs that are in place and have been in place over the years are reflective of what is considered to be that perceived threat.

If, in fact, we are redefining the threat to civil aviation—and I think there is an obligation of the FAA to participate and the Department of Transportation to be heavily involved and probably this subcommittee as well—to ascertain the threat to civil aviation and then design security programs against that threat.

We can't continue, though, to point out what is perceived to be frailties in a security system when it was designed against a threat and effective against a particular threat without redefining the threat.

Mr. DEFAZIO. And I heard the same thing from the Nuclear Regulatory Commission. We went through this same argument over what constitutes a threat and what doesn't, and they are saying they are reasonably guarding against a defined threat.

Well, I am stating a circumstance. Planes between 30 and 60 now apparently are within your authority that those airlines pass those passengers through security.

Do you think, will you require that? Will you require those airlines to pass those people through security?

I perceive a threat, and I think there are other people who do perceive such a threat. A 60-passenger plane is a fairly large plane and a fairly attractive target.

Mr. MCARTOR. Commuters who would transfer passengers to larger aircraft—the larger aircraft has been perceived to be the hijack threat in the past—would be required to go through security programs. Those commuters who fly between cities that do not either interface with the larger aircraft or do not enter the sterile concourses have heretofore not been required, because that has not been perceived to be the threat.

But I stand by what I said before. If you and your colleagues or if the Department of Transportation or others believe that this country is at risk in civil aviation with either people off balance or on balance with respect to the smaller gauge aircraft, then we have to design security systems against that.

Mr. DEFAZIO. OK, well, you are very adept at giving an answer which throws the responsibility back. My question is, since you currently have the authority between 30 and 60, will you or do you need further urging to consider those restrictions being applied to aircraft between 30 and 60? It would require, obviously, a change in the CFR and perhaps a statutory change to take you below 30, but where you have the authority between 30 and 60, are you currently considering or will you in the near future be considering restricting access to those planes and putting those people through heightened security?

Mr. MCARTOR. Because I am not quite sure exactly what you are driving at, Congressman, let me say that because of your concern, yes, I will consider it and, yes, I will get you a written response as to——

Mr. DEFAZIO. What I am driving at is I think there is a threat. Other members of the committee, Mr. Cardin who observed Aspen where there was absolutely no security whatsoever, and others have expressed a concern to me. People talk about it. I don't think the committee has formally expressed that concern. I can bring this up with the chairman separately and discuss it with him, but it is a concern I have.

Mr. MCARTOR. You do understand, of course, what I am saying about I think we do need to understand what the threats are to civil aviation against which we are trying to protect ourselves.

Mr. DEFAZIO. Sure.

Mr. MCARTOR. Is it a hijacking? Is it the fanatic? Is it suicidal? Is it bomb threats? And then we need to design our systems against those threats.

Mr. DEFAZIO. Right. I understand that and, again, I had an extensive discussion with the NRC on this, but my observation is that these are attractive targets, that perhaps the threat has changed significantly in the first 15 or 20 years from the first famous hijacking in the Northwest which was an extortion attempt to the current state of affairs which are often perhaps more suicidal missions, and I think that things are changing.

Mr. MCARTOR. And I would agree with you. I think the threat is changing, and we have to determine just what those changes are.

Mr. DEFAZIO. OK. This is not the subject of this hearing, but I would like and hope that it will be a subject of a hearing soon. The

fact is that I have met with various manufacturers in the private sector who contend that they have devices that are much more effective than the currently used screening devices in our airports both for bombs and for hand-held weapons. Yet, it seems that there is a technology development program going on within the FAA to develop some of these same technologies which already exist off the shelf.

I have met with some members of your agency, and I have legislation pending on this issue to require a review. However, I have some concerns that we are reinventing some things that already exist.

I know it is not the subject that you prepared to talk about today, so I am not going to ask you to give a detailed response, but I would also like to express that concern. I think that, given the failure rate identified by GAO, we have a disaster waiting to happen out there, and I have some anecdotal evidence which I wouldn't relate publicly from talking to the chief of the Capitol Police.

Mr. MCARTOR. I would welcome the opportunity to discuss these with you personally. I would also, with great respect say that I think perhaps you may not have accurate information with respect to the state of the art of detection devices.

We like to think that we have a pretty open mind, because we have a very real and present need, and the thermal neutron bomb detection equipment that we are testing right now would appear to be pretty much the state of the art. There are some other devices but are simply impractical for the airport environment.

The same thing goes with magnatometers or other types of detectors for weapons, but I would be more than happy to work with you on this. If there is a better way to do it, we will do it.

Mr. DEFAZIO. Again, it may have to do with how you define the threat, but the NRC and some nuclear plants are using screening devices that are much higher state of the art than what we are currently using that handle a large number of people, including some bomb detection devices, and I would be happy to discuss that with you or members of your staff.

Mr. MCARTOR. Yes, sir. I doubt seriously if we have 450 million Americans going through any of the nuclear plants this year.

Mr. DEFAZIO. No, I realize that, but I think if you asked any individual American would you like to be in a situation similar to what is happening in Kuwait and have your life threatened and be retained on a plane for 10 days or would you rather be delayed for an additional 5 minutes the next time you go to the airport, I don't think there is any one individual constituent in my district and I doubt in anyone else's who would say I would rather take a significant risk of ending up being hostage of some fanatics than to take a little additional delay.

So——

Mr. MCARTOR. And that point is very well made, sir.

Mr. DEFAZIO. Thank you, Mr. Chairman.

Mr. MINETA. Thank you very much, Mr. McArtor, Mr. Hendricks, and Mr. Broderick. We appreciate your testimony and presence here today.

[Mr. McArtor's prepared statement follows:]

STATEMENT OF HON. T. ALLAN MCARTOR, FEDERAL AVIATION ADMINISTRATOR

Mr. Chairman and members of the subcommittee, I appreciate having the opportunity to appear before the Subcommittee today to discuss commuter airline safety. I know the Members of this Subcommittee share my deep concern over the accident record last year for the commuters, and my conviction that we do all we can to prevent a repeat.

The accident record experienced by the commuters last year was, in a word, unacceptable. After a record low number of accidents in 1986, the commuter airlines experienced 33 accidents and 58 fatalities in 1987—the highest totals since 1980, when there were 38 accidents, and 1979, when there were 66 fatalities. The accident rate per hundred thousand hours more than doubled what we saw in 1986. So far in the first three months of this year, there have been 6 commuter airline accidents in which 22 persons died compared to 8 accidents involving 19 fatalities for the same time period last year.

Last year's safety record for the commuters is a significant departure from the positive trend we have seen developing for the commuters since 1980 despite record growth in the commuter airline industry. Passenger traffic on commuters has increased 11.2 percent annually from 1980 to 1987—from 12.9 million enplanements to 27.2 million. Revenue passenger miles have more than doubled as well. The number of commuters has fluctuated from a high of about 245 in 1980 to today's roughly 170 operators, although these numbers are somewhat misleading because, in any given year, new operators enter the field while some old ones cease operations.

Anticipating strong commuter growth as a result of deregulation and out of concern over a poor safety record for commuters, the FAA totally revised and upgraded its Part 135 operating regulations for commuter airlines in 1978. Every existing commuter was certified to those higher standards, and every new commuter since then has had to meet those higher standards. Those regulatory changes, coupled with recognition of the need for improvement within the commuter industry and improvements in FAA's inspection programs, brought about substantial change in the level of safety afforded by commuter operators in this decade compared to the end of the last decade. In fact, the historical safety record for commuters has gotten steadily better.

In light of the substantial success we have seen in commuter safety, the temporary reversal of this trend stands out even more. The logical question to ask is what has caused the surge in accidents we experienced last year. One answer you may hear is that it is because of the lack of experience of commuter pilots. Since we all know that there has been substantial turnover among commuter pilots, this approach has a ring of truth to it and has the benefit of identifying a simple problem we can all understand. A preliminary analysis of statistical data available on most of the pilots involved in the commuter accidents last year, though, doesn't lead to that conclusion: the average total flight time (for 28 of the 33 pilots) was 7722 hours, the average time in the type of aircraft operated (for 26 of the 33 pilots) was 1090 hours; and, for the pilots on which data was readily available (28 of 33), all were current.

We have also taken a look at other factors associated with the 33 accidents last year, although we must await the NTSB's findings as to probable cause for individual accidents. Our assessment shows that 11 of the accidents (33%) occurred in Alaska; 15 (45%) were single pilot operations; 14 (42%) involved piston aircraft operations; 10 (30%) occurred during night hours; 25 (76%) occurred during Visual Flight Rules conditions; 14 (42%) occurred on landing; 3 (9%) occurred during cruise or inflight maneuvering; 3 (9%) occurred while taxiing; and 1 (3%) occurred while the aircraft was parked. We are examining this and other data to help us achieve needed safety improvement.

In fact, we are currently following three paths to ensure that commuter airlines provide the traveling public with the highest levels of safety; an indepth inspection of commuter operators; a review of the regulations governing commuter operations; and an upgrading of pilot training, including an emphasis on cockpit resource management programs. I would like to elaborate briefly on each one of these areas.

I recently ordered a year-long, indepth inspection of commuter operators to help us ferret out whatever problems may exist. Phase one of this effort, to be completed by the end of this month, consists of analyzing all data available to us to determine the operators to be inspected and problem areas which will provide the focus of the inspections. We anticipate scheduling about 30 operations (or roughly 20% of the industry) for indepth inspections.

Phase two of our inspection plan will be completed by September 30. During that time, we will assemble teams of FAA inspectors, schedule, and inspect the approximately 30 operators.

Phase three will be completed by December 30. During that phase, we will issue a final report. We will also apprise all of our principal inspectors of our findings and recommendations and ask them to work with their assigned operators to correct problem areas. Naturally, any safety problems noted during the course of our inspections will be immediately corrected, and will not await the completion of a final report.

This intense inspection activity should tell us a lot about current compliance with our safety regulations by operators and will help us pinpoint areas where we may need to stress additional surveillance or follow-up activity in the future.

We are also examining the regulations which govern commuter operations to determine whether changes should be made. There are some areas where, because of historical differences between the operations of the major airlines and the commuters, there are differences in Part 121 and Part 135 regulatory requirements. We will be looking at those differences to assure ourselves that they are justified, and will propose appropriate amendments when we conclude that they aren't.

The third path we are following applies to both pilots under Part 121 and commuter pilots. That concerns my effort to upgrade aircrew performance. This is one of my first initiatives with the FAA and a major component of Impact 88. I expressed concern early in my tenure as Administrator about the need to take steps to increase professionalism in our aircrews, and we immediately set out to do that. In conjunction with industry, we are currently working on a complete revision and upgrading for pilot training requirements, which will comprise the first significant change in this area in 30 years.

We want to increase use of simulation to increase pilot skills and abilities to better cope with adverse weather and emergency situations, which are difficult or unsafe to duplicate during actual training flights. We have recently issued an exemption to the commuters to permit them to make greater use of advanced training devices (a basic form of simulator) in recurrent pilot competency/instrument proficiency check requirements, and believe this is an important step in the right direction.

We are developing cockpit resource management training guidance along with draft regulations. In fact, I have already been provided a draft advisory circular concerning cockpit resource management by one of our task force groups working in the pilot training area.

We are trying to determine the feasibility of combining human factors concepts with job task analysis (which sets out the detailed functions required to perform aircrew duties) as a means of producing better training standards, as well as improved cockpit and aircrew certification standards. Specialized groups of the FAA/industry task force are addressing a variety of issues related to flightcrew professionalism, the need for vigilance and discipline in the cockpit, and improved means of training flightcrews. Our plans call for a draft of improved aircrew training standards this Fall.

I feel strongly that the most important steps we can take to improve safety are to enhance aircrew performance. That will provide the largest safety benefits in the long run. I have often said that the most important wings on the airplane are on the pilot.

In closing, Mr. Chairman, I want to stress that none of us can be satisfied with the commuter safety record. We must all do what we can to achieve needed improvement. I am confident that the steps we are taking within the FAA will help us better define the nature of the safety problem and identify the appropriate solutions. We cannot and will not accept a repeat of last year's safety performance.

That completes my prepared statement, Mr. Chairman. I would be pleased to respond to questions you may have at this time.

Mr. MINETA. At this time, we will break for lunch, and we will come back at 2:45.

[Whereupon, at 1:44, the subcommittee recessed, to reconvene at 2:45 the same day.]

AFTERNOON SESSION

Mr. MINETA. The subcommittee will please come to order.

At this time, I would like to call forward Mr. John S. Fredericksen, the Executive Vice President of the Regional Airline Association.

Mr. Fredericksen, we have your statement. It will be made a part of the record. So, you may proceed in your own fashion.

TESTIMONY OF JOHN S. FREDERICKSEN, EXECUTIVE VICE PRESIDENT, REGIONAL AIRLINE ASSOCIATION

Mr. FREDERICKSEN. Thank you, Mr. Chairman.

I will just quickly summarize my prepared testimony.

I think it is important right at the beginning, though, for us to discuss who exactly are the commuters. I think it is a continuing problem with confusion, certainly among the public.

The regional airline industry is made up of both part 135 and part 121 carriers. Our surveys which we recently conducted show that some 300 airplanes in our industry were flown under part 121 or, that is, were bigger than 30 seats.

Those airplanes, because they are so much bigger than the others in the community, carried 42 percent of the regional airline passengers. Yet, whenever the public or sometimes the press talks about the commuter accident rates, they include the whole community, but they merely talk about the Part 135 accident rates.

So, for the committee's edification, we prepared the chart on the back, Appendix A, which is really a good indication of the statistics for the whole commuter industry, including the part 121 carriers. We prepared those statistics directly from NTSB statistics.

As you know, the NTSB breaks down their accident rates by 121 and 135 for their own purposes, but we did it for the industry as a whole as well as those two classes of airplanes.

We are not here today, though, to talk or argue statistics with you. We acknowledge that the winter of 1987 and the beginning of 1988 has been very difficult for the industry, and we wanted to take this advantage to tell you what it is that we are doing about it and what we are looking at to try to figure out what the problem has been.

Prior to the FAA's announcement of its new inspection program for the year, we went forward with a series of recommendations to our member carriers, passed through our board of directors so that it has the force of the association behind it. We presented to you and your staff earlier those recommendations, but they include:

Crew pairings, to the maximum extent possible, be accomplished to avoid the situation where both pilots are inexperienced in the aircraft type.

As you know, the FAA has recommended that, too, but there are some difficulties in doing that. We have strongly recommended to our carriers that they work within those difficulties to make sure that you don't have two members of the crew who are not experienced in the airplane type flying together.

The second recommendation is that the captain make all takeoffs when the weather conditions require the use of lower than standard takeoff minima.

The third is that the captain make all landings in adverse or marginal weather.

The fourth is that line checks required by the regulations be given during actual revenue flights instead of as part of instrument or proficiency checks. Those are three different types of checks that are mentioned in that item there. They are all required by the regulations.

In practice, though, sometimes they are all given at the same time. In order to maximize the amount of checking done by check pilots in our industry and Part 135, we have recommended that our carriers do the line checks separately and would check airmen on actual revenue flights.

The fifth one is a little more complicated, the recommendation that part 135 copilots receive initial operating experience in the right seat of the airplane with a check airman flying left seat. Currently, part 135 has no specific requirement for the copilot to have initial operating experience.

We feel that our recommendations constitute positive action which, when combined with carrier managements' commitment to reemphasize the basics of cockpit procedure discipline and awareness, will go a long way toward preventing future accidents.

On another major project that we are working on in the safety area is the completion of an internal safety audit manual. Dick Collie who is here with me today is the main spearhead behind the operational part of that. We have another man doing the maintenance part.

The manual will be prepared within the month and available to our member carriers so that it gives specific guidance to each CEO to assign a safety officer or an audit officer within his airline to maintain a constant check of the regulatory compliance of that carrier.

As we have all known, the FAA has initiated a special one-year inspection program for the part 135 section of the commuter industry. If I were Administrator McArtor, I think I would have initiated something similar to that. When you see a slight upturn in what had been historically a very good trend downward in our accident rates.

We believe very strongly, though, that FAA will not develop any new information or trend criteria if they do the same kind of inspections on the 20 airlines that they select that they do routinely. We have met with them extensively in their preparation for the inspection program and encouraged them to not do the same things.

We encouraged them to fly in the cockpits more. We encouraged them to actually go out and see maintenance being done.

We believe that only through that method rather than the classic FAA audit type inspection where they just go through paperwork records will give the kind of snapshot that the FAA really needs if they are going to find anything that we are doing differently now than we were doing in 1986.

One of the major issues that has come up in the hearings today already is our code sharing relationships with our major partners. There are some 55 of those relationships in place today. Some carriers have code sharing relationships with more than one major carrier.

Some people have suggested that the Part 135, at least, segment of the industry would be better served if the major partners took a

more active role in the safety and operational aspects of the code sharing partner. We are very cautious about that approach.

I think if you look at the performance of our carriers, the regional carriers who operate under part 121, without major carrier oversight, you will see in Appendix A in the back that they have performed over the last four or five years better safety-wise than the major carriers. So, I think that belies the idea that it is major carrier experience or somehow major carrier answers that creates the difference in the safety records.

You heard Mr. McArtor and you heard Mr. Lauber, too, say that one of the main reasons for the difference of the safety records is simply the different operating environments for the small airplanes and the big airplanes. Those operating environments are not going to go away just because a major carrier takes a more active role in overseeing a code sharing carrier.

The FAA, to its credit, for the last 4 or 5 years has taken a very active surveillance role for the certificate holders under part 135. We think that has been instrumental in improving the accident rate, and we don't see any reason why anyone should get between the FAA and that certificate holder. We are talking about the major carriers.

One of the recommendations that we hear now from several sources is that why should not all airlines operate under part 121 if those carriers who operate under part 121 tend to be safer. In many areas, we believe that is a good a suggestion.

RAA is very actively working on an industry/FAA task force. One of the recommendations of that task force will be that all training and checking for pilots in airliners that use two pilots will be under part 121.

We believe that has significant advantages both from an operational point of view and for those carriers who operate both 121 and 135 airplanes. It will certainly simplify the recordkeeping.

There are certain parts of 121, though, that will never be suitable for the regional airline industry. We don't believe that a dispatch system which is required under 121 will ever be necessary for us. We don't believe that some of the equipment redundancy that is required for long-range transport operations is necessary, and we don't believe that flight and duty time requirements which are required under 121 necessarily should be required for commuter regionals.

There are some things that the majors are doing now which we would encourage, though, which we think will help the regionals in their business and in their safety programs. One of the things that majors can do is help the regional code sharers when it comes to screening pilots. The major airlines have large capabilities for screening pilots, including the use of simulator checks and psychological tests, some things which are not available to the commuter industry.

When the major airline uses those screening things, it saves the regional airline time and energy, because we get the pilots we want from the very beginning.

Last year was a cause for great concern in our community. We have to remember, however, that even the rates for 1987 were dra-

matically better, as you pointed out at the beginning of the hearing, than they were in pre-deregulation times.

If there are trends that are inducing complacency or inattention in our industry, we are going to vigorously look for them and take whatever steps are necessary to reverse them. We will vigorously work to identify and resist whatever is going on out there that may be turning the accident rate around. We will cooperate fully with the FAA.

Thank you very much. I would be happy to answer any questions.

Mr. MINETA. Thank you very much, Mr. Fredericksen.

What do you consider the most significant safety problem in the commuter industry, and how should it be addressed? Does your five-point initiative identify the most significant safety problems and their resolution?

Mr. FREDERICKSEN. It is a little bit difficult to answer that. I would have to say that the most important potential safety problem in our industry is probably stability in the pilot ranks.

Now, I think every witness this morning has told you that experience, per se, has not been a factor, at least that we have been able to detect in the accidents that have happened so far. However, there is a potential there whenever you are constantly turning over pilots and constantly turning over management personnel that you lose stability within the company.

I think there is a potential there for some safety ramifications. I think we are answering that in a number of ways.

Probably the most important way is to develop more efficient training apparatus in the carriers. The use of the advanced training devices is something that we have talked to you about many times before and simulation in our industry will allow us to much more efficiently train pilots in the future.

That in conjunction with systems where we work out with our major partners where the loss of our pilots tends to be more systematic in a more orderly fashion, I think, really addresses those concerns.

Mr. MINETA. With respect to your five-point initiative, for instance, the fifth one that calls for all part 121 and part 135 copilots to receive initial operating experience in the right seat of the airplane with a check airman flying left seat. Currently, part 135 has no copilot IOE requirement, and part 121 requirements can be met by observing in the cockpit.

Mr. FREDERICKSEN. Right.

Mr. MINETA. The reasons that the IOE can be met by observation in the cockpit for part 121 is because they go through extensive simulator training. I was on a 767, and the captain said, "you know, this is the first time I am going to be flying the plane, and I have revenue passengers behind me."

Mr. FREDERICKSEN. Right.

Mr. MINETA. That is because they have gone through their simulator training. So, I can see that distinction because they have gone through the simulator training. One of the problems that we have talked about earlier is the lack of the 6-degree simulator for aircraft that are generally used by the part 135 carriers.

Now, I suppose there are some of those others like the BAE 146 that probably has a full 6 degree simulator, but there probably isn't one for a Beech 99 or a Swearingen Metro. There may be for some Embraer aircraft or for CASA, but some of the others may not have them.

Mr. FREDERICKSEN. Well, I agree with you, and that is why we recommended that the copilots get that initial operating experience with a check pilot.

I think, though, there is some full motion simulation capability available now for more of our airplanes. There is for the Metros, for the Brazilias, the DH-8's, and the Saab 340's.

However, the advance training device, while it won't have the full motion capability, will really give the pilots a tremendous jump on most of that training, and then they can complete the rest of it.

Mr. MINETA. And I agree with you, because, by and large—I mean, I have seen the ATD, and, by and large, those are very good in capability.

Since most of the carriers themselves can't afford simulators, to what extent are some using a contractor or somebody to have access to a full simulator?

Mr. FREDERICKSEN. Well, there are through a couple of methods. One is companies like Flight Safety who are in the pure simulation business and who rent out their simulators. The other avenue is the manufacturers who, in order to help sell their airplanes, will buy a simulator and offer training programs for the pilots. That is true of deHaviland and Embry Air.

The real advantage, though, of an ATD comes from its being on the facility where you can run that thing 20 hours a day with your pilots and you don't have to send them off to Canada or down to Florida. You can use your airplanes for revenue service.

That is why we think the advanced training device will be such a boon when we get some of these on the line—plus the fact that they cost in the neighborhood of $1.5 million versus $8 to $10 million for a 6-axis simulator.

Mr. MINETA. With regard to this five-point initiative, would you say that these practices are becoming common and widespread throughout the industry. Since it is just starting are they things that are being seriously taken by the carriers as the way to go?

Mr. FREDERICKSEN. Yes, sir, I think they are. I think 2 through 5 definitely. Number 1, as I have written to you before, is a difficult one sometimes to implement.

As you know, because of seniority rules and problems with flight and duty time, sometimes you just don't have a pilot available who has the requisite experience level, but I think our member carriers at least have reported to us that they are putting in place formal programs to try to make sure that pilots are always matched so they are matched with somebody who is experienced in that type of airplane.

Mr. MINETA. Now, your suggestions that you have made to FAA to enhance their recently announced inspection program—has the FAA been receptive to your suggestions?

Mr. FREDERICKSEN. Well, we think so. They have not yet announced, as you know, exactly what it is they are going to look at

and how they are going to do the inspection and which carriers they are going to inspect. They have, though, offered us a considerable amount of time, and we have given them a considerable amount of information which we think—it isn't going to make life easier on our carriers when these people show up to do the inspection, but we think it is going to give the FAA a new look or a good snapshot of the way life really is today, and they seem to agree with us.

So, I hope they will.

One of the things that the FAA is going to do which I also think is laudable is they are not going to try to pick out the 20 worst carriers they can find. They told us that they are going to pick out carriers who have good compliance records, good accident records, as well as some who may not have been so fortunate and try to see what the differences are, and we applaud that effort.

What we don't want to see here, though, and what we have told the FAA very frankly is if it turns into just an enforcement policy where they are just announcing enforcement cases against carriers based on this inspection, they may gain some good publicity from that, but I don't think the industry gains anything as far as new knowledge.

Mr. MINETA. In light of that, how would you assess FAA's overall performance in terms of their inspection program, especially given the fact that NTSB seems to make comment of the FAA's surveillance program in their own accident investigation reports?

Mr. FREDERICKSEN. I think, in fairness to the FAA, they have come a long way from where they were 3 or 4 years ago where we were considered second class citizens, and sometimes air carrier inspectors were sent to our carriers to be trained.

I think they have taken us seriously now, and we tend to get inspectors assigned who at least know what they are talking about and who are qualified on our airplanes.

There are problems that remain, though. They don't have enough inspectors, and they do tend, I think, to consider the major carriers' priorities.

One of the other problems we have, one of the things that keeps us busy in our office is that many times they have a hard time with standardization. One POI in one part of the country will interpret a rule or a regulation much differently than somebody else here in Washington. It works out good for us; it justifies our existence. We spend a lot of time talking with Washington and straightening those people out.

However, if I were running the FAA, I would work more on standardizing that enforcement. It tends to work out better for us because you know what to expect when the POI shows up.

Mr. MINETA. Have you seen any improvement along that line in the last, let's say, year or so in terms of the centralization? I know I have always made the comment that there are several FAA's out there, because it is so decentralized that each of the Regional Offices darn near have their own interpretation of the rules and regulations.

Mr. FREDERICKSEN. Well, it is still a problem. I think most of our carriers who are involved with the day to day enforcement action will tell you that it is still a problem.

However, the FAA has taken major steps to correct that. Two major things I can think of are the new computerized op specs where they will basically be able to show every carrier's operations specifications on computers and be able to show that in Washington just as easily out in the regions. You will see much more standardization of those operations specifications.

The other item is the computerization of the MEL policy which—and both of those things, when they are put into place, are going to cause some heartache in the industry, but I think in the long run you are going to see much more centralization from Washington, and everyone is going to be better off.

Mr. MINETA. Very well. Thank you very much, Mr. Fredericksen.

Mr. Gingrich.

Mr. GINGRICH. Thank you, Mr. Chairman.

Thank you for being here, Mr. Fredericksen. Let me ask you a couple of questions about your testimony.

Let me start by asking you as a matter of general principle if a passenger gets on a regional airline, should he expect the same level of safety, the same probabilities of a safe trip as if he gets on a major airline?

Mr. FREDERICKSEN. I think the words that the legislation used was "an equivalent level of safety."

Mr. GINGRICH. Right.

Mr. FREDERICKSEN. The answer to your question, to be frank, is probably not as long as you recognize that we are going to be serving very small communities with under-developed airports in Alaska and in the mountains year round.

We will provide the level of safety that is the best possible under those circumstances.

Mr. GINGRICH. Well, if I can draw a distinction between admittedly unique circumstances—particularly in the Alaskan environment—because I think for most Americans most of the time, the concern they have isn't the crash in Alaska. I think there is a sense, with all due respect to my colleagues from Alaska, that Alaska is still a frontier area, that it still has very unusual weather patterns, that people fly in a lot of unusual circumstances in Alaska.

In the 48 continental States, they would sort of hang around and wait for the weather to break. In Alaska, they figure that is next season.

Mr. FREDERICKSEN. Right.

Mr. GINGRICH. So, if you can exclude Alaska from this context, the question I am asking, in part, is—and maybe we are wrong which is why I am perfectly happy if you want to strongly disagree with this—I was under the impression, though, that in most of America, precisely because deregulation was leading to a lot more reliance upon regional airlines for certain kinds of service, people did not see their trip as having two parts.

There was the super safe part which was between major hubs and then there was this somewhat less safe part which was between the major hub and the local airport.

Now, would you suggest that is inaccurate, that in fact they should have two different senses of the relative safety they are purchasing?

Mr. FREDERICKSEN. No, I don't think so. I think if we were allowed to take Alaska out of our statistics, it would make a dramatic change in the commuter accident statistics you would see.

I think if you look at the Aviation Safety Commission's report that came out yesterday which I thought was generally very well done, you will see that they studied about 20 commuters anyway and found that they operated every bit as safely as the major carriers. If you look at my Appendix A up there, you will see that our operators who operate airplanes under the same rules as the majors with bigger than 30 seats have, for the last five years, done better than the major carriers.

So, I think that——

Mr. GINGRICH. Now, let me draw a distinction there for a second, because I did look at your appendix. Is that because the operators who run those kinds of airplanes are financially and managerially more stable than the operators who are running smaller airlines, or is it because the rules for those kind of airplanes are more stringent than the rules for the smaller airplanes?

Mr. FREDERICKSEN. Well, I am not sure it is really either one of those. I think it may have to do with simply the size and the performance of the airplanes and the airports that they tend to go into.

When you fly those bigger airplanes, you go into the more dense and more developed airports. The transport category airplanes, generally the 20 seats and above, are required to have higher performance standards and more redundancy than the smaller airplanes simply because the smaller airplanes can't carry that.

So, there is a certain safety factor built into simply the size of the airplane. I really don't think it has anything to do with management.

Mr. GINGRICH. Let me ask you a second line of questioning which is, when a passenger buys a ticket and it has three or four connections, should the passenger be explicitly aware that they may well be, for one or two of those connections, flying on smaller airlines?

Mr. FREDERICKSEN. I think so. We are absolutely in favor of the most consumer awareness we can get. It is important to point out, I think—and the Administrator missed a point this morning or maybe it was Dr. Lauber—that the Department of Transportation now requires carriers to tell a passenger in any oral communication if he is going to be flying on a different airline than the one he bought the ticket on.

The words they normally use is "Northwest air link operated by Masaba," for example.

Mr. GINGRICH. Sure, but what does the ticket normally say?

Mr. FREDERICKSEN. The ticket will say Northwest flight and four numbers.

Mr. GINGRICH. And isn't that explicitly, in the context we are talking about, misinformation? I may get myself in some trouble with some major carriers, but the longer I have thought about this issue, it seems to me that if you are a normal passenger and you pick up a ticket and it says blank airline but happens to have a four-letter code, the odds of your knowing that the four-letter code means that it is a commuter are close to zero.

Mr. FREDERICKSEN. Right. I would respond that we are in favor of the passenger knowing. If it takes something else to maybe let them know exactly they are on a smaller airplane, fine.

It avoids the heartache for us of having somebody come up to our gate and be unhappy. We don't like to have that happen.

And there are a few unusual situations, for example, with a handicapped person in a wheelchair, it is very difficult when they show up at our gate and can't get on the airplane. So, we would like to see whatever is necessary to make sure that the person knows what he is doing. I think generally you end up with a happier passenger and a happier airline.

Mr. GINGRICH. When you say on pages 6 and 7 that it is important to remember that the mission of the 19-seat and smaller airplanes will never require the performance and redundancy required for large, long-range transports, I don't disagree with that as a general principle if you are talking about certain kinds of navigation and other equipment for cross country, et cetera.

However, for example, when you talk about the ground proximity warning system, it seems to me that there are common technologies for landing and taking off and flying in difficult conditions that may be as valuable to you in a smaller plane as they are in a larger plane.

Could you comment on that?

Mr. FREDERICKSEN. I think ground proximity is one of the things that we are going to have to reassess our look at, particularly if there is now a new technology coming down that may make it affordable for our airplanes.

Frankly, our operators are looking at an environment now where Congress, in conjunction with the FAA, has come down with the TCAS requirements on our communities, the FDR/CVR requirements on our communities, and now if we are looking at a ground proximity warning, those sort of financial hits on those small airplanes all at once may be just more than we can handle.

So, we would have to look at it from that point of view. Obviously, our carriers will buy any equipment on their airplanes if it is going to make it safer if they can afford to fly the airplane once you get it on there.

I know some of our carriers in the mountainous regions now with the Beech 1900's have had to take seats out of airplanes already because of the additional avionics that have been required. You simply can't get the airplane off the ground any more.

So, we have to make that balance all the time. I think the Congress makes that balance when they buy us precision landing aids and approach lights at airports.

Mr. GINGRICH. Do you know if any work is being done on trying to do some kind of a code training system where you can aggregate the costs of certain kinds of training or aggregate the costs of certain kinds of investments that a large airline could amortize inside itself but it might take six or seven small carriers to amortize?

Mr. FREDERICKSEN. Well, I think you may be seeing a tendency towards that among the code sharing carriers, those that are buying up their code sharing operations or establishing significant equity positions in them. I think we are seeing more and more of a tendency toward that, particularly when they are buying common

airplanes and spreading them around the fleet. You tend to have the same airplanes so you can conduct the same training.

Mr. GINGRICH. To what extent is that changing them from partners into subsidiaries, the total package you just described?

Mr. FREDERICKSEN. How is the relationship changing?

Mr. GINGRICH. Yes.

Mr. FREDERICKSEN. Well, I don't think there is any doubt that in those cases where a major airline is buying your airplanes and looking into how you train your pilots that the relationship is changing. It is no longer—the commuters are no longer nearly as independent as they used to be.

Now, that is not the case industry-wide by any sense of the imagination, but there certainly is a move in that direction.

Mr. GINGRICH. Thank you. You have been very helpful.

Thank you, Mr. Chairman.

Mr. MINETA. Thank you, Mr. Gingrich.

Mr. Inhofe.

Mr. INHOFE. Thank you, Mr. Chairman.

Mr. Fredericksen, I would like to go back to something that I don't believe has been discussed by any of those who were previously here. In terms of entry level requirements for pilots and for pilots in command, you and the airlines are working under two different FAR's, two different sets of requirements. Is that correct?

Mr. FREDERICKSEN. Well, that is true, except that for those minimum requirements under part 121 and 135, they are basically the same.

Mr. INHOFE. That is what I was going to ask.

Mr. FREDERICKSEN. The only difference is for airplanes nine seats or below.

Mr. INHOFE. OK, but those using the 30-seat bench mark and using part 121 and 135—are they the same?

Mr. FREDERICKSEN. Yes, sir.

Mr. INHOFE. They are the same.

Mr. FREDERICKSEN. The captain has to have an air transport pilot rating for both categories.

Mr. INHOFE. An ATR.

Mr. FREDERICKSEN. Right.

Mr. INHOFE. That being the case, isn't part of the problem that most of the young people or those individuals that you are going after given the same opportunity with a major airline would prefer to go with a major airline?

Mr. FREDERICKSEN. Well, I think that is true, except that no major airline is going to hire somebody who just got his commercial pilot's license. For that matter, no commuter carrier is going to hire somebody who just got his commercial pilot's license with only 250 hours.

Every company has different levels of experience, but——

Mr. INHOFE. I guess what I am getting at is even though the requirements are the same, there is a natural selection process, so that perhaps your average time or some of your standards, while they still comply with the same FAR's that the airlines are hiring at, might be a little less.

Mr. FREDERICKSEN. Well, I think if you looked at the pilots who were hired for the major airlines total experience levels versus

those who were hired for the commuters total experience levels, you would probably find that our total experience levels are less.

Mr. INHOFE. Yes.

Mr. FREDERICKSEN. No doubt about it. Many pilots view the commuters as a way to get to a major airline.

Mr. INHOFE. Yes, I understand that, although I have also seen a lot of those individuals who, at the earlier stages of their career, actually have a greater proficiency than they do later on, which gets to the other thing we talked about.

Were you here this morning when we talked about the pilot hours?

Mr. FREDERICKSEN. Yes, sir.

Mr. INHOFE. Are you in general agreement with me, the Administrator, and the others who talked about doing something about this erroneous perception that there is a direct relationship to the number of hours and the safety of a pilot?

Mr. FREDERICKSEN. Absolutely. Hours are just one indicator that we should look at.

Mr. INHOFE. When the gentleman from Georgia asked the question initially when you were including the frontier, as he referred to it, and some other areas, and he asked if the expectation of safety should be the same in commuters as it is in airlines, your first answer was no.

For clarification, once you get out of those areas that are difficult to reach or might have some inherent hazard as to either the elevation of the field or the terrain that they are flying over, if you make that an equal proposition, then do you think that the safety anticipation should be the same?

Mr. FREDERICKSEN. Well, I think generally yes. I think it is important for me to emphasize, of course, that when I say that person may not expect the same exact level of safety, he is still going to be much safer than he would be if he decided not to fly and drove his car anyway.

Mr. INHOFE. I understand that.

Mr. FREDERICKSEN. OK. That is a hard one for me to call exactly, because I haven't taken the numbers and taken out, say, the mountains or Alaska. We have occasionally taken out Alaska, and I know it makes a dramatic difference in our figures.

So, generally, I would say yes, but that is merely a factor of the difficulty of flying in the environment that you happen to be in.

Mr. INHOFE. Yes, and I guess my point is that there are a lot of characteristics about some of the commuters, for example, stall characteristics that are put on there for the very purpose that they are operating in and out of shorter fields.

Mr. FREDERICKSEN. Right.

Mr. INHOFE. In many cases, my safety expectation would be greater in some of the smaller ones that I know have capacities to do things that the larger airplanes don't, and that bigger is not always better.

Mr. FREDERICKSEN. I couldn't agree more, and I think it is important to point out, too, that a lot of these companies have been in business for a long, long time. They are very experienced in operating in their particular little niche of the country, and it is not fair to say that somebody who happens to be bigger who runs a big air-

line could somehow come in and tell them how to run that business better.

Mr. INHOFE. Yes, that is right. The public is very sensitive to safety, of course, and when we talk in public forums like this I think it is important that we remind people that in spite of the publicity that is gained when an airliner goes down or a commuter goes down, that you are still safer when you are up there than when you are down here in a car.

Mr. FREDERICKSEN. You are certainly preaching to the choir here about that.

Mr. INHOFE. Yes, well, I think it is important. I worry about some of the scare tactics that have been used. Quite frankly, there are some people in Congress who try to make people feel there is a greater hazard than is there, and that is something that has concerned me not just because I have a background in aviation but because I think it is a disservice to the industry and the public.

Thank you, sir.

Mr. FREDERICKSEN. Thank you.

Mr. MINETA. Thank you very much, Mr. Fredericksen. I appreciate your testimony on behalf of the Regional Airline Association.

[Mr. Fredericksen's prepared statement follows:]

STATEMENT OF JOHN S. FREDERICKSEN, EXECUTIVE VICE PRESIDENT, REGIONAL AIRLINE ASSOCIATION

Mr. Chairman, we appreciate this opportunity to offer the perspectives of the regional airline industry on this, our most important subject. While we regret the circumstances which caused the subcommittee to call the hearings, we are anxious to let you and the public know what we as an industry are doing. I think it is important to clarify first, however, who we are talking about when we refer to commuter airlines.

WHO ARE THE COMMUTERS

Because FAA operating rules make so many distinctions, and DOT's rules make further distinctions, there is endless confusion over what is a "commuter" airline. Operationally, 30 seats has historically been the break point, since that is the break point between Part 135 and Part 121 of the Federal Aviation Regulations. In many people's minds, the terms commuter and Part 135 are synonymous. That classification ignores the present make-up of the commuter industry, and is the reason why we changed our name from Commuter Airline Association to Regional Airline Association. We are short-haul airlines who are primarily in the business of connecting small communities to the major hub airports. Our members all operate predominantly propeller equipment, although some also fly small jets in the 100 passenger size range. Out of 1,841 aircraft operated by regional airlines in 1987, 300 were operated under Part 121 by 33 carriers. Over 42 percent of the regional airline passengers last year were carried on Part 121 aircraft. Yet, whenever accident statistics are discussed, the Part 121 statistics are quoted as those of the "major airlines" and Part 135 those of the commuters, simply because 30 seats is the break point chosen by the NTSB. RAA has developed accident statistics for the regional airlines, using NTSB data, which we believe more accurately represents the true picture of the industry than does a simple breakout by Part 135 versus Part 121 (See Appendix A).

We are not here today, however, to argue statistics with the subcommittee. RAA acknowledges that the winter of 1987–1988 was a difficult one, with the rate of regional airline accidents running counter to the trend of improving safety which we had enjoyed since deregulation. We have very carefully analyzed these accidents to look for common threads or similarities to tie the accidents together. We found none. The accidents were apparently caused by different combinations of factors, including crew failures, equipment failures and weather; in short, at least from the preliminary information we have available, the same classic list of causes evidenced by any list of airline accidents, whether major airline or commuter.

Prior to FAA's announcement of a new program of inspections for the part 135 regional airlines, RAA staff presented the Board of Directors a list of recommenda-

tions for our member carriers in response to the upturn in the Part 135 accident rate. The Board of Directors approved our recommendations and they were sent to all our member carriers as items which should be immediately implemented. Those operations initiatives included:

(1) That crew pairings to the maximum extent possible, be accomplished to avoid the situation where both pilots are inexperienced in the aircraft type. FAA has already recommended this practice, but not all carriers have formal programs in place.

(2) That the captain make all takeoffs when the weather conditions require the use of lower than standard takeoff minima.

(3) That the captain make all landings in adverse or marginal weather.

(4) That line checks required by the regulations be given during actual revenue flights instead of as part of instrument or proficiency checks.

(5) That all Part 135 and Part 121 copilots receive initial operating experience in the right seat of the airplane with a check airman flying left seat. Currently, Part 135 has no copilot IOE requirement, and Part 121 requirements can be met by observing in the cockpit.

RAA feels that its recommendations constitute positive action, which, when combined with carrier managements' commitment to reemphasize the basics of cockpit procedural discipline and awareness, will go a long way toward preventing future accidents.

We are nearing completion of an extensive internal safety audit manual, for both operations and maintenance, which we will soon provide to our member carriers. The procedures in that manual, when executed by the carrier's designated auditor, will allow each regional carrier CEO to maintain a constant awareness of the regulatory compliance posture of his airline, and to take necessary corrective action in a timely fashion. That audit manual will be ready for distribution within a month.

THE FAA SPECIAL INSPECTION

As we all know, the FAA has initiated a one year program of intense scrutiny of the Part 135 section of our industry to try to determine if changes could or should be made to address the problem. RAA has met with FAA Flight Standards staff and presented them with a suggested list of items which we believe FAA should study to get a good real-time picture of the industry. Examples of those items are: (1) a check to see how many flights had recently been canceled for maintenance problems; (2) how large is the backlog of parts on order; and (3) how long are the logged checking and training flights compared to those same flights conducted when an FAA inspector is aboard.

RAA strongly believes that FAA will not develop useful new data by simply doing more of the standard paperwork-based inspections, and we have told them so. Regional carriers already receive every bit as high a level of surveillance as the major carriers, so that trends which can be found from mere inspections of records to determine compliance with airworthiness directives or flight and duty time regulations should already be well known to FAA. If FAA wants to take a real look at what is going on, they are going to have to expend the effort to actually ride in the cockpits, and observe the maintenance being done. Since regional airline maintenance is done at night, FAA inspectors may have to work some nights. While FAA certainly conducts hands on surveillance today, they do not do it with a systematic approach, looking for trends industry wide. Only that sort of effort will reveal any new trends that require action and prevent this new inspection program from becoming a mere publicity campaign for FAA.

CODE-SHARING PARTNERSHIPS WITH MAJOR CARRIERS

Code sharing with a major airline has become a pervasive phenomenon in the regional airline business. There are now about 55 such agreements in effect throughout the country. Some regionals have several agreements, with different majors at different hub airports. Along with the undisputed marketing advantages of such relationships come the inevitable questions about how much authority the major carrier partner should exercise over the training and operations of the regional. There are those who argue that, since the majors are so much bigger than the regionals, with more elaborate operations and maintenance departments, that the safety performance of the regionals would be enhanced by more direct involvement by the major carrier partners. RAA believes that that approach is overly simplistic and ignores the very real differences in operating environments of the regionals vis a vis the majors. Any valid comparison of safety records between the majors and the regionals must take into account those differences. As long as the regionals continue

to fulfill their mission of providing air service to smaller communities, with smaller less developed airports, including those in Alaska and the mountainous states, they will experience statistical accident rates which are less favorable than the major carriers. If you refer again to Appendix A, you will note that the overall accident figures for those regionals operating Part 121 size aircraft have been consistently better than those of the major carriers. It must be acknowledged that the safety record of all Part 121 carriers is so good that any accident tends to skew the curve, and that the regionals represent only a small fraction of the Part 121 community. Nevertheless, the consistently excellent record of the Part 121 regionals tends to discount the argument that major carrier management expertise or experience is a key to greater safety.

The logical follow-up question to RAA's position becomes: Why should FAA not require all carriers to operate under the rules of Part 121? In some cases, RAA does believe that the scope of Part 121 rules should be expanded. We are working on a suggestion to FAA that Part 121 pilot checking and training regulations be required for all operations requiring two pilots. This would have the affect, for example, of specifying required training and would initiate initial operating experience requirements for copilots. It would also greatly simplify the record keeping requirements of those carriers who operate both Part 121 and Part 135 size aircraft. The maintenance requirements for Part 121 and for aircraft with 10 or more seats, are already virtually identical. On the other hand, many of the rules of Part 121 are written for large transport category aircraft and would simply not work on smaller commuter aircraft. While we have seen an increasing tendency for FAA (and sometimes the Congress) to require more and more sophisticated equipment on smaller commuter aircraft, it is important to remember that the mission of the 19 seat and smaller airplanes will never require the performance and redundancy required for large long-range transports.

Certainly, regionals are experiencing more and more control by their major partners. That control varies greatly by carrier, and by the amount of equity interest the major holds in the regional. Where the major carrier uses its purchasing power to buy equipment for several code-sharing regionals, there will always be an increased level of operational control over the use of those assets. While financial efficiency might result from such arrangements, RAA does not believe that any increment in safety of operations necessarily follows.

We do believe, however, that the extra "look" provided when major carriers contract for safety audits of their regional partners, for whatever reason, is generally beneficial. That practice is now common in the industry. We believe that there are further steps the majors could take to enhance regional airline operations. The majors could provide their extensive pilot and mechanic pre-employment screening services to their code sharers. This could include a structured qualification ride in a simulator, when the regional lacks that capability. The majors could adjust their hiring practices to allow regional pilots to give reasonable notice to their carriers when they are leaving. This would help avoid the strain on the regional's training program caused by unexpected vacancies. Most major carriers are now taking steps to stabilize their own pilot networks including the regional partners. Those steps cover the spectrum from formal seniority positions for regional pilots in the major's organization to hiring preference within the major for pilots from the code-sharing regional.

There are also several new programs instituted by major carriers, in conjunction with their regional partners, to develop more new airline qualified pilots through college-based programs. Although we will not begin to see significant numbers of pilots from those programs for at least a year, we think those training programs are a very significant step in the right direction. One of the keys to the college programs will be the increased use of simulators to train students as regional airline pilots. That extra simulation capability, coupled with the newly approved use of Advanced Training Devices for Part 135 operators, is central to long term improvements in training efficiency for regional airline pilots.

REGIONAL AIRLINES ARE SAFE

Last year was a cause for great concern because the accident rates for commuters reversed a steadily improving trend. It is important to remember, however, that the rates last year were still dramatically better than pre-deregulation accident rates. While RAA is confident that last winter's accidents were a sort of statistical aberration, we are not ignoring the possibility that trends in our industry may be inducing complacency or inattention. We will vigorously work to identify and resist those trends, and we will cooperate fully with the FAA in its efforts.

I thank you very much for your attention and would be happy to answer any questions the panel might have.

APPENDIX A

SAFETY RECORDS

	1983	1984	1985	1986	1987P[1]
Total accidents/100,000 departures:					
Part 135 (scheduled)	0.77	0.82	0.82	0.64	1.39
Part 121 (regionals)	0.19	0.0	0.0	0.13	0.27
Regionals (combined)	0.66	0.68	0.68	0.52	1.12
Major carriers	0.47	0.25	0.32	0.33	0.45
Fatal accidents/100,000 departures:					
Part 135 (scheduled)	0.09	0.26	0.27	0.08	0.45
Part 121 (regionals)	0.19	0.0	0.0	0.0	0.0
Regionals (combined)	0.11	0.22	0.23	0.06	0.34
Major carriers	0.07	0.02	0.08	0.02	0.06
Total accidents:					
Part 135 (scheduled)	18 2F	22 7F	21 7F	15 2F	34 11F
Part 121 (regionals)	1 1F	0	0	1 0F	2 0F
Regionals (combined)	19 3F	22 7F	21 7F	16 2F	36 11F
Major carriers	21 3F	12 1F	17 4F	19 1F	28 4F

[1] P = Preliminary data.

[1] Source: NTSB and 1988 Annual Report of the Regional Airline Industry.

Mr. MINETA. Because of a long-planned event for this room this evening, I have been informed that we are going to have to vacate this room. So, we will vacate this room and reconvene in room 2253, and it will be about 5 or 10 minutes before we get upstairs. So, we will reconvene in room 2253 on the second floor.

[Recess taken.]

Mr. MINETA. Let us reconvene the Subcommittee on Aviation.

We are pleased to have Mr. Craig Christensen the Chairman of the Regional Airline Committee for the Air Line Pilots Association.

Mr. Christensen, I see you have a number of your colleagues here with you, so please tell us who they are, and then your statement will be made a part of the record, and you may proceed in your own fashion, sir.

TESTIMONY OF CRAIG CHRISTENSEN, CHAIRMAN, REGIONAL AIRLINE COMMITTEE, AIR LINE PILOTS ASSOCIATION, ACCOMPANIED BY MICHAEL OSWALD, AREA SAFETY COORDINATOR, SEATTLE REGION; DON WILSON, MASTER EXECUTIVE COUNCIL AND CHAIRMAN, METRO AIRLINES; STEVEN D. GREEN, CENTRAL AIR SAFETY CHAIRMAN, AVAIR; AND JOSEPH SCHWIND, DEPUTY DIRECTOR, ENGINEERING AND AIR SAFETY, AIR LINE PILOTS ASSOCIATION

Mr. CHRISTENSEN. Thank you, Mr. Chairman.

I am accompanied today by my colleagues Capt. Steve Green, Capt. Don Wilson, and Capt. Mike Oswald. To my right today, I am accompanied by Mr. Joe Schwind, Deputy Director of the Air Line Pilots Association Engineering and Air Safety Department.

Mr. Chairman, I am Chairman of the Air Line Pilots Association's Regional Airline Committee. We represent 20 of ALPA's airlines that are regional airlines.

Today, I want to discuss some safety issues that have come to light in the commuter airline industry. It is our opinion that deregulation has significantly impacted the industry.

My statement is quite lengthy, and it is a matter of record, so what I would like to do is dispense with reading everything and just go ahead and highlight some of the issues that are in my written testimony.

The finger of blame for the problem—and we really do believe there is a problem—would have to point to many different groups, to understaffed ATC facilities and overworked controllers, to airline managements intent on economizing to the detriment of safety standards, to the regulatory agencies that seem to have walked away from their traditional role as policemen of the industry. The Federal Government itself, through the Deregulation Act of 1978, opened up the flood gates which allowed the number of airlines to increase without sound safety practices.

In short, Mr. Chairman, the safety net is unraveling.

In an effort to determine if this competitiveness is affecting safety, on March 8, 1988, the FAA ordered a special inspection of the nation's commuter airlines. This inspection was scheduled to determine if the airlines were complying with the agency's safety rules and regulations.

ALPA supports this inspection but warns that just looking at compliance will not uncover the deficiencies in the regulations. Commuter airlines operate under Part 135 of the FAR's, while airlines operating aircraft with more than 30 seats must follow FAR Part 121.

Adding to the potential safety problem is the fact that most commuters which operate today are doing so under both sets of regulations.

I would now like to just touch on some of the specifics, those areas which were highlighted earlier today by the other speakers. The first areas is pilot training and experience.

Currently, a difference exists in the training requirements specified in FAR 121 and 135. FAR 121 requires a specific number of programmed hours of instruction in required subjects for initial pilot ground training. FAR 135 lists similar subjects to be covered but does not specify a minimum number of programmed hours.

This basic difference may lead to a shortened or abbreviated, sometimes inadequate pilot training program provided by the commuter airline.

FAR's 121 and 135 both allow for the use of appropriate ground and flight simulators. Major airlines have found that the simulator is a valuable and economical tool in the overall pilot training process. They have found that the simulator reduces training time and produces a more qualified pilot.

On the other hand, most commuter pilots complete their flight training in the airplane.

Flight simulators allow pilots to gain invaluable experience under a number of various, often hazardous, situations. Inexperienced pilots may acquire the confidence and the ability necessary to deal with real life dangers should they arise while in the airplane.

Because of high pilot turnover, commuters cannot or do not want to spend the time or the money on training or simulators. Therefore, the commuter pilot does not receive the quality training necessary, and safety is compromised.

An area that was hit on earlier today was the cockpit resource management [CRM]. The definition of this training is it is the effective identification and development and direction and utilization of all resources available to the flight crew.

This training includes: cockpit and cabin crew coordination, assertiveness training, problem solving, decision making and judgment, situation awareness, stress management, fitness to fly, fatigue, incapacitation, as well as inflight emergencies.

The FAA's time frame for requiring cockpit resource management may be too late for the regional airlines. The FAA, through the regional airlines' POI's, can help by indicating a commitment to CRM at the regional airline levels.

We have heard a lot about flight time and duty time today. This is an area which also contains differences between FAR 121 and 135, again creating two separate standards.

FAR 121 permits a maximum of 30 hours of flight time per week, 100 hours of flight time per month, and up to 1,000 hours of flight time annually. Under part 135, the commuter pilots can fly a maximum of 34 hours per week, 120 hours per month, and 1,200 hours annually.

Both FAR 121 and 135 allow for a minimum rest period of 8 hours during a 24-hour period. The 8-hour minimum rest period includes travel to and from hotels, time to eat and other physiological needs. The actual sleep a pilot may get will be less than 8 hours.

One problem of particular concern lies in this schedule abuse. For example, a pilot may be scheduled for up to 8 hours of flying time between rest periods. Pilots have reported that some airlines are scheduling their line of flying for 8 hours, yet during the entire month, the actual time flown consistently required over 8 hours of block time.

Such schedule abuse can result in cumulative fatigue on the pilot which, in its acute phases, affects judgment and, hence, safety. Also, on a normal day for a commuter pilot, he may be required to make as many as 10 or 11 landings in a given duty period.

These flights are all conducted at low level while en route and, therefore, the pilots are constantly exposed to poor weather conditions and to a great mix of uncontrolled aircraft and greater congestion at these lower altitudes.

An area that wasn't covered earlier today is severe weather avoidance. In the low altitude regime, commuter pilots are involved in one of the biggest operational concerns we have, convective weather while en route or within a 25-mile radius of his destination airport.

In the past, we have seen accidents due to severe weather such as Southern Airlines flight 242, and in the summer of 1980, Air Wisconsin's flight 985. More recent examples are Pan American at New Orleans and Delta at Dallas.

In the summer of 1987, I was informed by the FAA that the plan for putting weather radar in tower and approach control facilities

was scheduled for 1986 and that the new radar units would be on line within the next two years with intensity level capabilities on all scopes. This program is well behind schedule.

In aircraft certification, a bilateral agreement exists between the FAA and most foreign governments which allows these governments' certification and performance standards to be accepted by the FAA. ALPA would like all scheduled airlines to meet the set of performance and certification requirements of FAR 25, transport category aircraft.

Even though the commuter category is in place, it is not applicable to current aircraft, and some manufacturers are already petitioning for exemptions from these newly established requirements. Once again, we have two distinct levels of safety, and the margin of safety is diminished.

We have heard a lot about flight data recorders. The Air Line Pilots Association strongly supports the NPRM on flight data recorders and cockpit voice recorders. ALPA has long been an advocate for the expansion of FDR parameters in FAR 121 aircraft, and, now, along with the installation of effective CVR's and FDR's in all FAR 135 airplanes.

The additional requirement for CVR hot microphone installations will also go a long way in removing the guesswork involved during an incident or an accident investigation.

On aircraft maintenance practices, prior to the implementation of the FAA's new MEL program on March 15, 1988, we were receiving pilot reports that inoperative equipment listed on the MEL was not being repaired in a timely manner. The condition of the aircraft's equipment might have been a contributing factor in causing an incident or an accident.

The old MEL program illustrates how a management with its eye on the bottom line can legally gut the high safety standards that once were common practice in the industry. For example, it may be legal for an airplane to fly with one inoperative generator, but it is not necessarily safe, depending on weather, the time of day, and the proximity of alternate airports.

This MEL condition is not confined to one or two airlines, though some abuse in the system is seen more than most on other airlines. It is not surprising, therefore, that in 1986, the Air Line Pilots Association survey of its members found that pilots throughout the industry reported an increased number of items carried on the inoperative equipment list under the MEL concept.

Fifty percent of the pilots responding to the ALPA safety survey noticed a decline in the maintenance or the airworthiness of the aircraft they were flying. Also, approximately 50 percent said that captains were sometimes pressured into accepting aircraft with an excessive number of deferred maintenance items.

It is hoped that the FAA's new approach to the MEL's will help eliminate this problem.

Lack of FAA surveillance of the air carrier industry has been a longstanding concern of ALPA and the National Transportation Safety Board. Since 1978, the Safety Board has conducted 15 air carrier investigations in which deficiencies in the FAA surveillance were cited.

In its 1980 special study on commuter airline safety, the Safety Board concluded that: One, the FAA should have seen, from the ample evidence available before 1979, that the agency needed to strengthen its commuter surveillance programs. Two, the FAA has been slow to recognize that FAA inspector work loads and General Aviation District Office [GADO] staffing levels do not allow adequate surveillance of the commuter industry.

The FAA's aviation standards field inspector staff had decreased more than 30 percent between 1978 and 1984. As a result of this decrease, one principal maintenance inspector was assigned to 30 total certificates, operators, and examiner responsibilities. Fourteen of those certificate holders involved FAR 135 operations.

This was in addition to their other assigned duties.

While the FAA has responded positively in many instances to numerous safety recommendations on the subject of surveillance, recent accidents are evidence that some problems continue to exist.

The Safety Board has stated that a minimum level of direct surveillance should be established in terms of periodic assistance, visits, maintenance inspections, airplane check rides, et cetera to oversee commuter and air carrier operations and that the required number of personnel to execute such a program should be identified for each air carrier district or general aviation district office having oversight responsibilities for commuter air carriers.

In summary, the areas of concern and, specifically, items mentioned in this statement are just the tip of the iceberg, much more needs to be done. Without an adequate safety margin, any mistake may be a potential disaster.

We can do far more than merely hope that a serious safety problem will somehow magically be resolved. Past experience tells us that the solution to the safety problem lies with all of us who face these problems daily, by maintaining that extra measure of vigilance.

ALPA's longstanding motto has been "schedule with safety." For this reason, we insist that the concern for safety be raised to demand one level of safety for all airlines.

Mr. Chairman, thank you for your time. This concludes my formal statement. I would be happy to answer any questions.

Mr. MINETA. Thank you very much, Mr. Christensen.

Let me ask Captains Green, Oswald, or Wilson if they have any statements to make at this point.

First of all, Captain Green, you are with whom?

Captain GREEN. I am with AVAir.

Mr. MINETA. And Don, you are with whom?

Captain WILSON. Metro Airlines.

Mr. MINETA. Captain Oswald?

Captain OSWALD. I am now with U.S. Air.

Mr. MINETA. Mr. Christensen, much of your testimony has focused on how deregulation has lowered safety standards because of the competitive pressures on the marketplace. You also say that the frequency of recent accidents may be a good measure of commuter industry safety.

If that is the case, if deregulation has lowered safety standards, what is your explanation of the fact that the accident rate in 1987 was one-half of what it was in 1978?

Now, admittedly, 1987 was not a good year for the commuter accident rate, but it was still a lot better than it was in the mid- to late-1970's. So, in terms of the trend line and in terms of the statistics of the accidents per 100,000 departures, et cetera——

Mr. CHRISTENSEN. The trend after deregulation gave many airlines the ability to expand rapidly. In doing so, the commuter airlines expanded quickly and had a problem with keeping up with the pilot training aspects. We still see that today, or, because of the rapid expansion and the problem with keeping ahead of the game financially some airlines could not exist in the industry and are no longer here.

At our recent meeting——

Mr. MINETA. Well, yet, the total accident and the fatal accident rates keep coming down from where they were in 1978 when we deregulated, accidents in terms of 100,000 departures or 100,000 hours of operation. We are concerned by the fact that all of a sudden it jumped up in 1987, because the aviation industry as a whole kept coming down.

Recognizing that there have been financial problems, but even with those financial problems in the industry, total accidents and the fatalities have come down. Then, all of a sudden in 1987, it shot back up. That is why we are concerned, and that is why we are going into this.

Mr. SCHWIND. Congressman, we feel that there are a lot of other things to look at in addition to just the accident rate, and you are correct if that is all you look at.

In fact, in order to look at this deeper, our staff put together a study of safety and deregulation just last year and is an accompaniment to the testimony here today. If it hasn't been supplied to you, I will make a copy available to you.

However, you are correct on just looking at those statistics, but we feel there is a lot more to look at beyond those accident and incident statistics.

Mr. MINETA. That full statement will be made a part of the record.

[Mr. Schwind submitted the following for the record:]

ENCLOSURE 1

JUNE 1987

ABSTRACT

DEREGULATION AND SAFETY: AN AIRLINE PILOT'S PERSPECTIVE

BY

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Since the deregulation of the U.S. airline industry in 1978, much has been said about its impact on the airlines, particularly on its economic effects. But less attention has been paid to another aspect of deregulation, one of greater significance to those who travel by air: how deregulation threatens aviation safety. This paper attempts to assess, from an airline pilot's perspective, the effects of deregulation on safety.

Pilots believe that the excellent safety record developed by our industry has been due to two reasons: on average, airlines have exceeded the minimum safety standards established by the Federal Aviation Administration (FAA), and, the FAA has had the resources necessary to inspect operations and enforce minimum standards where necessary. Pilots are also aware that the maintenance of this excellent safety record has had a direct financial impact on both industry and government.

Prior to the advent of deregulation, the costs of maintaining this excellent record were passed directly to the consumer through fare increases and aviation taxes. However, since deregulation not all operators are financially able to absorb the costs of exceeding the FAA minimum safety standards to the same degree they were prior to deregulation. To compound the problem, the FAA has not been provided the resources necessary for adequate inspection of the growing number of operators spawned by deregulation.

Other conditions have exacerbated the impact which deregulation has had on aviation safety. These conditions include the economic state of the nation during the late seventies and early eighties, the impact of the air traffic controllers' strike, and the impact of federal budget deficit reduction programs on certain federal agencies.

Therefore, we need to do more than look at records of fatal accidents in order to examine how significant the impact of deregulation has been on aviation safety. Trends in aviation safety can be determined by analyzing the vast amount of data collected by industry and government. Such analysis leads the author to the conclusion that exposure to risk has increased over the past eight years and, therefore, that safety has been impacted in a negative manner. A complementary conclusion is that this risk exposure can be reduced by one factor: the commitment of resources by the federal government to ensure that the FAA can provide the services operators need to succeed financially, and carry out its mandate of inspection and enforcement. The resources necessary to achieve these goals are available through the Aviation Trust Fund and must be used for that purpose.

DEREGULATION AND SAFETY: AN AIRLINE PILOT'S PERSPECTIVE

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1. INTRODUCTION

1.1 Significance of the Impact of Deregulation on Aviation Safety

The airline industry is a service industry, so the success of the industry depends, to a significant degree, on the confidence the customer has in the industry. Deregulation has produced in many, though not all, markets an increase in customer demand for service, primarily through cheaper fares.

However, the competition which has produced these cheap fares has also drained the financial resources of many operators to the point where some have failed and others have merged with financially stronger operators. During this survival of the fittest or weeding-out process, some operators have not been able to maintain the necessary financial commitment to safety. When this lack of commitment to safety manifests itself in a public form, customer confidence is shaken and customers are less likely to utilize the services of that particular operator. Therefore, in spite of cheaper fares, if customer confidence in the industry were shaken by a perceived threat to safety, the industry as a whole would suffer.

This paper does not claim that deregulation has produced a threat to safety that will cause the industry to fail. However, the paper attempts to point out to what extent deregulation has had a negative impact on safety and what must be done before this threat becomes a greater debilitating force than it already is.

1.2 Historical Background

The legislative cornerstone for the development of commercial aviation in America was the Air Commerce Act of 1926. However, the entrance of many new airlines into the industry during the late twenties and early thirties, combined with the harsh economic climate of that era, produced excessive cutthroat competition and ostensibly resulted in airlines that were:

1) Operating obsolete aircraft,

2) Unwilling to invest in new aircraft,

3) Demonstrating questionable safety performance resulting from cost cutting,

4) Maintaining marginal operations with no growth; and

5) Easing in entrepreneurs with get-rich-quick schemes.

This situation led to the introduction of the McNary-Watres Air Mail Act of 1930, which gave Postmaster General Walter Brown dictatorial power over the airline industry. Brown felt the airline industry needed leadership to pull it out of the sorry state of affairs which existed in 1930 and Brown used his dictatorial power to circumvent the competitive bidding process in the award of airmail contracts. He also forced the merger and consolidation of a number of carriers. These actions helped to stabilize the financial conditions within the industry and went a long way toward improving the safety record of the operators. However, Brown's actions also produced many personal enemies, which resulted in his removal from office in 1934. The government also canceled all airmail contracts. Army pilots who had not flown commercial routes since 1927 began flying the mail again. In the first two weeks, five pilots were killed, seven were seriously injured, and eight aircraft -- none equipped with the equipment necessary for flying at night or in clouds -- were destroyed. Finally, after 66 crashes, 12 deaths, and a cost to the government of nearly $4 million in the three-month period the Army flew the mail, President Roosevelt ordered the Army to cease flying and asked Congress to provide adequate legislation for returning airmail to private companies.

Unfortunately, Congress's first attempt at a solution -- an interim piece of legislation passed in 1934 -- only made matters worse. It largely overlooked the question of what to do about passenger service and allowed those carriers whose contracts had been canceled to change simply their names and rebid for airmail routes. To make sure they continued getting government funds, the carriers bid ridiculously low, putting themselves in a position where they were subsequently forced to scramble for passenger business to make up their losses. Spencer, Frank A. (1941)

Of the aftermath, historian Henry Ladd Smith says, "The marvelous airline system, built with such pride, was so nearly wrecked that it took four years to repair the damage."

It didn't take Congress long to discover its mistake. In 1935, several lawmakers introduced legislation designating airlines as common carriers (rather than private contractors) and placing them under the aegis of a single government agency that would regulate all aspects of the business: routes, pricing, and safety. It was an idea that had first surfaced on Capitol Hill in 1929 but had drawn little support. This time, things were different.

The following year, the Roosevelt Administration took up the proposal and drafted legislation embodying the philosophy that airlines were a quasi-utility like other modes of public transportation, requiring government controls on entry, prices, etc., to achieve long-term stability. In June, 1938, after three months of debate, Congress agreed to this philosophy and passed the Civil Aeronautics Act of 1938, giving the airlines the economic charter they had been seeking and creating a new agency, the Civil Aeronautics Authority, to oversee them.

The regulatory authority of the act was the Civil Aeronautics Authority (a 1940 amendment changed the name to the Civil Aeronautics Board). Its mandate was to consider "in the public interest, and in accordance with the public convenience and necessity" the following objectives:

1. The encouragement and development of an air transportation system properly adapted to the present and future needs of the foreign and domestic commerce of the United States, of the Postal Service, and of national defense.

2. The regulation of air transportation in such manner as to recognize and preserve the inherent advantages of, assure the highest degree of safety in, and foster sound economic conditions in such transportation and to improve the relations between and coordinate transportation by air carriers.

3. The promotion of adequate, economical, and efficient service by air carriers at reasonable charges, without unjust discrimination, undue preferences or advantages, or unfair or destructive competitive practices.

4. Competition to the extent necessary to assure the sound development of an air transportation system properly adapted to the needs of the foreign and domestic commerce of the United States, of the Postal Service, and of the national defense.

5. The promotion of safety in air commerce.

6. The promotion, encouragement, and development of civil aeronautics.

A report of the Federal Aviation Commission of 1935, which was a major influence on the 1938 act, recommended: "It should be the general policy to promote competition in the interest of improved service and technological development, while avoiding uneconomical paralleling of routes or duplication of facilities." Later on the same report states, "On the other hand, too much competition can be as bad as too little. To allow half a dozen airlines to eke out a hand-to-mouth existence where there is enough traffic to support one really first-class service and one alone would be a piece of folly." (emphasis mine). Kane, Robert M. and Vose, Allan D. (7th Edition)

Airline safety is expensive. Airlines have invested billions of dollars to achieve a level of safety which is the envy of the world. Fully-equipped training facilities for flight crews and aircraft mechanics, maintenance centers and overhaul bases, modern, high-performance aircraft, redundant on-board systems, crew proficiency monitoring, stringent work rules, etc., all come together to provide a margin of safety which is often taken for granted by today's air travelers.

What is this margin of safety? It is the difference between the minimum standards set by the FAA and the higher, self-imposed standards of the airlines which have been achieved in a cooperative effort by pilots and management. It is also the experience gained from millions of hours of working within the air traffic system -- pilots know what this system can do and they know its limitations.

It is also the strong commitment of airline management and pilots developed over many years to make safety the number one priority in airline operations. Pilots believe unequivocally that it is this commitment and the understanding we have with management that discourages corner-cutting in safety, attractive as it often might be to managements when they count the dollar cost. O'Donnell, John J. (1976)

With the adoption of the Airline Deregulation Act of 1978, critics claimed that the cornerstone of the system, which has allowed industry and government to develop jointly the safest transportation system in the world, was lost. The system that existed prior to deregulation produced financial stability which allowed investment in facilities, equipment, and personnel dedicated to exceeding the minimum safety standards established by the Federal Aviation Administration (FAA). In response to these critics, Administration spokesmen have repeatedly denied that deregulation has affected safety. They have stated confidently that the Deregulation Act of 1978 affected only economic regulations and the Civil Aeronautics Board (CAB) and that the responsibility of the FAA, which promulgates and enforces safety regulations, has not been touched by the act. This view has proven to be terribly naive. Duffy, Henry A. (1983)

The purpose of this paper is to examine the influence deregulation has had on the industry's ability to maintain its high safety standards. It will answer three questions:

- What are the factors that have influenced safety since the airline industry has been deregulated?
- How have these factors influenced safety?
- What should be done in order to maintain safety standards within the airline industry?

2. FACTORS INFLUENCING SAFETY UNDER AIRLINE DEREGULATION

Three factors need to be examined in order to gain a full appreciation of how deregulation has influenced safety. They are:

- The national economic climate and its effect on competition and the entrance of new operators
- The air traffic controllers' strike
- Federal budget deficit reduction programs.

2.1 Economic Climate, Competition, and New Operators

As 1979 drew to a close, it was apparent that the early 1980's were going to be a period of uncertainty for the industry. The cost of jet fuel in 1979 jumped from about 40 cents per gallon to almost 60 cents -- a 50 percent increase in a single year. Inflation, held under 10 percent for four straight years, surged to 13 percent, fueled by another boost in oil prices. Interest rates also started climbing (they had remained stable for most of 1978), hitting a peak of almost 16 percent in 1979.

Awash in profits from 1978, the airline industry didn't react quickly to these ominous trends. Under the goad of deregulation, carriers continued to expand, adding 11,000 more people to their payrolls in 1979 (the years 1975 to 1978 saw scheduled carriers hire some 39,000 people). At the same time, new airlines began to appear: Midway Airlines started service in November, 1979, followed a year later by New York Air. (In 1978, there were 150 certificated airlines; today we have over 500.)

A wave of mergers also got under way. North Central and Southern joined forces to become Republic; Pan American bought National. Tiger International merged with Seaboard, and Summa Corporation, owner of Hughes Airwest, decided to sell its airline holdings to Republic.

These changes in the ranks foretold sizable risks, as well as possible rewards, for an industry confronted with an unfamiliar operating environment. What wasn't evident, at least then, was how great the risks could be if outside factors, such as a downturn in the economy, upset the transition process. In 1982, the dangers were all too obvious. Economic conditions continued to worsen in 1980 -- aviation fuel costs jumped another 50 percent, inflation remained in double digits, and interest rates soared to 21 percent, a level previously thought impossible.

The airlines, however, still groped for an appropriate response to their problems. Employment remained steady at approximately 340,000 people; some carriers, such as Republic, continued to expand; and fare wars erupted in various markets as carriers jockeyed for position in the open marketplace created by deregulation.

The consequences were not long in coming. Although revenues continued rising as inflation bumped prices upward, the decline in profitability that began in 1979 turned into a flood of red ink in 1980, putting carriers in a highly vulnerable position as 1981 began. Braniff, for example, had operating losses of $107 million in 1980, prompting its board of directors to bring in a new chairman in January, 1981. Pan American, which spent all of 1980 trying to mesh its operation with National's, piled up losses of $130 million for the year and managed to show a net profit only by selling off its headquarters building in New York City.

As the bad news continued, it became increasingly apparent that the companies suffering were not U.S. airlines in general, but trunk carriers (now called majors) in particular, the very segment of the industry that some observers feared would crowd out smaller operators under deregulation.

Local service carriers (now called nationals) rang up operating profits of $129 million in 1979 and $167 million in 1980 -- a much different story from the performance of other carriers.

As 1983 was drawing to a close, the national economic picture was beginning to brighten. Many of the same adverse results of deregulation continued: airline failures, hostile takeovers, and a continued decline in profitability for some operators. However, with the improvement in the national economy, the demand for service provided by the airline industry increased dramatically.

The major airlines, such as American, Continental, and more recently United, Northwest and Delta, spurred on by this demand for service, began significant expansion programs. These programs required major acquisitions of new equipment and facilities, additional personnel, and, in some cases, mergers or takeovers of financially troubled operators. New local service or commuter operators appeared as well. However, many of these soon became affiliated with or became wholly-owned subsidiaries of major carriers. The improved national economic picture has not cured the airline industry's financial situation completely, as evidenced by the problems plaguing Eastern, Pan Am, Western, and others. According to an ABC News survey, there have been 160 airline failures since we entered the deregulated era, and 70 percent of those operators who were in business before 1978 are no longer operating.

2.2 1981 Air Traffic Controllers' Strike

On August 3, 1981, the Professional Air Traffic Controllers Organization (PATCO) declared a strike against the FAA. The strike resulted in the walkout of approximately 13,000 controllers. Although some of the strikers returned, about 11,400 controllers did not return and were subsequently dismissed. The actions by PATCO and the FAA response left the air traffic control (ATC) system with a significantly reduced air traffic capacity. According to the FAA, the post-strike ATC system was initially managed by about 4,669 nonstriking controllers, 3,291 team supervisors and control and management staff, 800 military controllers on detail, and about 1,000 newly hired personnel, which totals 9,760, compared to a 17,275 pre-strike work force. National Transportation Safety Board (1981)

Immediately after the strike, the FAA implemented the National Air Traffic Control Contingency Plan. This plan, which anticipated a controller strike or job action in 1981, was "to insure the FAA's ability to provide a safe and orderly operation of the air traffic control system with the available, qualified manpower." In practice, the plan limited ATC system capacity to 75 percent of that which existed prior to the strike and reduced schedules at 23 major airports by 50 percent. Although the methods for limiting the system capacity were refined, the principle did not change. In fact, no major capacity-limiting measure was changed until October, 1981. By early October, the percentage of scheduled commercial flights had increased from the original 75 percent to about 83 percent. General aviation and other nonscheduled IFR traffic increased in September. The increasing departure delays and observations by controllers that the traffic workload was becoming significantly heavier led to an October 6 announcement of a planned reduction of commercial flights to 78 percent by December 1, 1981.

Additionally, a General Aviation Reservation Program was announced to place restrictions on the number of general aviation flights in the ATC system. However, aside from the lack of controls to deal with the traffic increases in the system in September, the FAA's preparation for the operation of the ATC system proved to be operationally feasible during the immediate post-strike period. National Transportation Safety Board (1981)

By March, 1987, the total controller work force had grown to 14,900, of which 11,200 were operational controllers. However, this still does not match the 1981 pre-strike work force level of 17,275, which included 13,300 full performance level controllers (FPL).

There is one additional important factor to consider when attempting to analyze the ability of the present ATC system to handle demand as compared to the pre-strike system. A pre-strike FPL controller was qualified at all the sectors in an area of specialization, whereas an operational controller is one who is qualified at two or more sectors in an area of specialization. This situation produces a much less flexible work force than that which existed prior to the strike, and hence a work force and ATC facilities much less capable of responding to the dynamic demands brought about through deregulation.

The FAA is in the process of hiring additional air traffic controllers and plans to have a total work force of approximately 16,000 by the end of fiscal year (FY) 1986. This number will be supplemented by an additional 225 controllers during FY 1987. However, these numbers are still significantly below the level which existed during pre-strike 1981 of 17,225.

2.3 Federal Budget Deficit Reduction Programs

In the late 1960's, it became evident the growth of this dynamic industry was not being matched by adequate facilities. With the enactment of the Airport and Airway Development (ADAP) Act of 1970, the nation took a giant step toward achieving an efficient and safe airport and airway system. The act envisioned a ten-year program to be funded for five years, with a review in 1975.

Reflecting the role of aviation in the economy and the public benefits derived from safe and efficient operation, that landmark measure: (1) found the airport and airway system inadequate to meet the requirements of then current and projected growth in aviation; (2) declared that substantial expansion and improvement was required to meet the demands of interstate commerce, the postal service, and national defense; and (3) established an expanded program of federal matching grants to sponsors of airports serving commercial and general aviation. Moreover, the act established a system of user taxes paid into a trust fund to provide an assured, long-term source of funding.

On June 30, 1975, the authorizing legislation of 1973 (PL 93-44) expired. Federal funding for the nation's airports remained dormant until one year later when President Ford, on July 12, 1976, signed into law the Airport and Airway Development Act Amendments of 1976 (PL 94-353). This act reactivated the programs and ended the one-year drought, during which federal action on approval of new airport construction and development had come to a halt.

Congress saw the continued growth in air travel justifying further ADAP expansion. Other problems of particular concern were also noted at the time: (1) terminal congestion and delays; (2) operating restrictions due to noise-control efforts; (3) airport sponsors' inability to plan on federal support; and (4) dissatisfaction with the National Airport System Plan (NASP), a plan mandated by the 1970 act that provided a basis for orderly airport development.

This new legislation extended the programs under the act for a five-year period, fiscal 1976 through 1980. It also increased the federal share of matching grants to airports and shifted the grants formula to channel more aid to smaller airports. Again, virtually all the money authorized was from the Airport and Airways Trust Fund. About half the total authorization was designated for capital improvements at air carrier and general aviation airports. Special provisions permitted commitment of that money to previously unauthorized ones, such as the purchase of buffer land around airports for noise suppression and terminal development. U.S. House of Representatives (1981)

The balance of the money was authorized for FAA programs, such as the purchase of air navigation facilities and research and development; and, for the first time, the use of trust fund money for the maintenance of federally owned airway facilities and airports was permitted. Previously, these costs had been borne by the taxpayers.

After two years of bitter debate, the Airport and Airway Improvement Act of 1982 was signed. Among other things, the legislation implementing this act increased the tax provisions of the Aviation Trust Fund in order to provide sufficient financial resources to modernize the air traffic control system. The aviation industry reluctantly agreed to support these tax increases, only after the Administration agreed to increased funding levels for FY 1982 through FY 1987. Both industry and government agreed that the airport and airways system was in dire need of repair if demand for service was to be met and if safety was to be maintained at desired standards. Joint Committee on Taxation (1980)

However, during the mid-eighties, our government was faced with a huge budget deficit. To combat this deficit problem, the 1985 Balanced Budget and Emergency Control Act, better known as the Gramm-Rudman-Hollings Bill, was developed. Gramm-Rudman-Hollings sets fixed numerical limits on the federal budget deficit, starting at $171.9 BILLION in FY 1986 and declining steadily until a balanced budget is required in FY 1991. Neither the President's budget nor the congressional budget resolution may exceed these limits. A special procedure is provided, however, by which Congress and the President may suspend the Gramm-Rudman-Hollings limits in the event of a recession. To date, efforts to exempt the Aviation Trust Fund from the budget-balancing provisions of the Emergency Deficit Control Act have been fruitless, even though there is a $ 9 billion excess of assets over liabilities in the trust fund as of December 31, 1986. U.S. House of Representatives (1986) See Figure #1

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AIRPORT AND AIRWAY TRUST FUND

Status as of December 31, 1986

	Current Month	Fiscal Year To Date
I. Balance - Beginning of Period	$8,793,808,680.52	$8,625,199,213.60
II. Receipts:		
A. Total Tax Receipts	217,724,000.00	732,139,000.00
B. Total Reimburse For Tax Refunds	2,494,550.00	2,494,550.00
C. Interest on Investments	418,753,651.47	419,836,342.10
Net Receipts	633,963,101.47	1,149,480,792.10
III. Expenditures:		
A. Federal Aviation Administration	372,536,870.55	719,425,094.26
B. NOAA Weather Services	7,250,000.00	7,250,000.00
C. Interest on Refund of Taxes	20.00	20.00
Total Expenditures	379,786,890.55	726,675,114.26
IV. Balance - End Of Period	9,048,004,891.44	9,048,004,891.44

Source: Treasury Department Chart

FIGURE 1

The essence of airline deregulation is economic in nature. Factors such as the general economic climate of the nation can affect how much influence deregulation itself may or may not have on the airline industry. Also, factors such as the air traffic controllers' strike can influence the effects of deregulation by limiting the ability of airline operators to expand or for new operators to enter the industry. Both of the aforementioned factors limited the full impact of deregulation on the industry, and thus, during the first six years of the deregulated era (1978-1983), it is very difficult to analyze the impact of deregulation on aviation safety. However, with the change in economic climate in the country and the relaxation of most restrictions imposed on the ATC system as a result of the controllers' strike, both occurring at about the same time, it is possible that unrestrained deregulation has had a much greater impact on aviation safety during the last three years (1984-1986). It is also possible that this impact has been magnified by the federal government's attempts to reduce the huge budget deficit through reduced budgetary commitments to some federal agencies.

3. THREAT TO AVIATION SAFETY

In order to gain a full appreciation of how deregulation has affected safety, we must first define safety. From a pilot's perspective, accidents are not a good indicator of how safe or unsafe the industry may be. Also, from a statistical point of view, accidents are not a good safety indicator because accidents occur too infrequently. However, this infrequency of occurrence does not mean all is well.

Too often situations have existed where there was good data that, if analyzed properly, could possibly have prevented an accident. The occurrence of near midair collisions in the air traffic control system is an example. During the controllers' strike, the FAA often used the number of reported near midair collisions as a system safety indicator. The Air Line Pilots Association (ALPA) disputed these figures on several occasions based on reports received by the ALPA Air Safety Department. It was not until a special investigation conducted by ABC News uncovered the fact that many near midair collision reports had been lost or misfiled by the FAA that the FAA changed its system safety indicator from reported near midair collisions to actual midair collisions, completely ignoring the fact that a large body of data collected by the agency indicated a growing safety problem. Then on August 31, 1986, a turbojetairliner and a single-engine general aviation aircraft collided over Los Angeles, killing 85 people; on January 15, 1987, another air carrier aircraft collided with a general aviation aircraft, this time near Salt Lake City, killing 10 people.

The point to this example is that even though no midair collision had occurred involving a scheduled air carrier aircraft since 1978, the number of near midair collisions reported to the FAA was much higher than originally thought and the number was increasing at an alarming rate. Therefore, the risk of a midair collision was indeed increasing.

Putting all this into a pilot's perspective, safety should be defined as exposure to risk. In the example just given, it can be argued that exposure to risk was increased with respect to midair collisions and, therefore, the system was not as safe as it could have been if this exposure to risk had been reduced.

Each of the factors described in Section 2 of this paper can have an influence on how deregulation affects exposure to risk for those utilizing or working in our air transportation system.

3.1 Risk Assessment - Economics, Competition, and New Entrants

Historically, the economic well-being of an airline has influenced decisions made concerning the commitment of resources to safety-related activities. An example of such influence can be found through an examination of Pan American during the late sixties through the early seventies, a time when this carrier was experiencing difficult economic conditions. After a series of accidents at Manila, Tahiti, Samoa, and Indonesia, all involving Boeing 707 aircraft and suspected pilot error, the FAA reviewed the Pan American pilot training program. This review found, among other things, that changes made in the training program in response to the economic conditions which confronted the airline had severely impaired the airline's ability to train pilots properly.

The national economy in the United States during the late seventies and early eighties certainly had a negative impact on the financial condition of many airlines. This economic climate and increased competition, which resulted directly from the ability to enter or leave existing markets easily and the appearance of many new industry entrants, were factors directly attributed to deregulation, and produced a severe financial strain on many operators. This financial strain did not produce a catastrophic failure in the safety regulatory system. There were, however, accidents, such as Air Florida at Washington, D.C., and Air Illinois at Carbondale, Illinois, which were obviously influenced by deregulation. Financial conditions, rapid expansion, and experience levels of personnel were listed as contributing factors in accident reports published by the National Transportation Safety Board following its investigation of these two accidents.

As previously stated, there has been no catastrophic failure. What the airline industry is facing is a slower, but potentially more serious, insidious erosion of the entire safety system, which started in 1978 and is continuing today. In a May, 1987, Department of Transportation (DOT) rulemaking action, the DOT's right to collect data for the FAA's use in allocating safety inspection resources was questioned by United Airlines. The DOT responded that the "FAA has found a relationship between a carrier's financial position and its safety record," thereby justifying this requirement.

The rationale is simple. Safety costs money, and price competition means that airline managers are being forced to make tough decisions on safety expenditures. All too often safety is losing out to cost-cutting -- not everywhere or every time, but enough to cause concern.

That doesn't mean that airlines necessarily are violating safety regulations, although willful violations by unscrupulous carriers appear to be on the rise. But that's only part of the problem.

Rapid expansion within our industry has diluted the overall experience level of the personnel who make decisions which affect safety. These decisions, which are made at the chief executive officer level and throughout other levels in the organization, may be very well intentioned. However, due to a lack of experienced management, these decisions may not turn out to be in the best interest of safety.

Carriers do not have to break the rules to make cost-saving safety cuts. To understand why, you must understand that most major airlines exceed FAA minimum standards. It is this extra safety margin, not the less stringent FAA minimums, that gives us our excellent safety record. Unfortunately, those extra safety margins are threatened by cost competition.

Cost-conscious managers shave a little bit here, a tad there, while the FAA offers its technically correct but misleading assurances that most airlines are operating within legal limits. Furthermore, these assurances are based on a limited ability to assess accurately what is really happening on the operators' properties. Cost-cutting continues, as evidenced by an April, 1987, announcement by Eastern Airlines that labor costs will be cut by $490 million this year. Two hundred and fifty-nine of the employees who will lose their jobs belong to the International Association of Machinists (IAM), the union which represents the mechanics for Eastern. This action comes after Eastern Airlines has been confronted with the largest fine ever imposed by the FAA on an airline. The fine was levied because of maintenance deficiencies on the airline. Duffy, Henry A. (1983)

The high demand for pilots caused by the growth of airlines shows no sign of abating. The Air Line Pilots Association expects pilot hiring at major, national, and regional airlines to add between 4,000 and 6,000 pilots to the work force per year for the rest of the decade.

Fewer military-trained pilots are being hired by the airlines. In 1980, nearly 83 percent of all airline pilots had had military flying experience, according to a study by the Congressional Research Service. Today only 40 percent are trained by the military. The overall decreasing supply of military pilots and the increasing demand for commercial airline pilots have hit the regional airlines hard. Regional airlines suffer a 30 to 50 percent turnover per year; 90 percent of them go to work for the major airlines.

The military and the commuter airlines together continue to supply a large share of the major airline pilot work force; however, they will not be able to meet the future demand. Airlines will have to look to general aviation, in-house airline training academies, and possibly foreign countries for additional pilots.

The competition between airlines as the pilot shortage worsens raises concerns about maintaining the qualification standards for new airline pilots. The average flight time of airline new-hires is holding steady at 3,000 hours. The amount of jet-flying time required by airlines, however, has gone from 2,300 hours of flight time in 1983 to 1,600 in 1984, and 800 in 1985. This is an obvious downward trend that ALPA is watching closely. The association has petitioned the FAA to upgrade licensing standards for Part 121 air transport pilot ratings and commercial licenses. ALPA also supports enhancing the efforts of 400 colleges and universities that now offer courses in aviation. This will help ensure that during times when demand for pilots is high and supply is low, the highest standards of education and professionalism are maintained for commercial airmen.

The situation among commuter airlines is even more critical. Three recent commuter air carrier accidents have heightened the National Transportation Safety Board's concern about several significant safety issues:

- On August 25, 1985, Bar Harbor Airlines Flight 1808, a Beech Model 99, crashed during an instrument landing system (ILS) approach to Auburn-Lewiston Airport, Auburn, Maine. The airplane struck trees at an elevation of 345 feet above mean sea level (msl) in a wings-level attitude 4,000 feet from the end of the runway threshold and 440 feet to the right of the extended runway centerline; all eight persons aboard were fatally injured.

- On September 23, 1985, Henson Airlines Flight 1517, a Beech 99, crashed during an ILS approach to Shenandoah Valley Airport, Weyers Cave, Virginia. The airplane struck trees at an elevation of 2,400 feet msl in a wings level attitude about six miles east of the airport; all 14 persons aboard were fatally injured.

- On March 13, 1986, Simmons Airlines Flight 1746, an Embraer 110P1, crashed during an ILS approach to Phelps Collins Airport, Alpena, Michigan. The airplane struck trees at an elevation of 725 feet msl in a wings-level attitude about 1.5 miles from the end of the runway threshold and about 300 feet to the left of the extended runway centerline; three of the nine airplane occupants were fatally injured.

In all three accidents, the pilots were relatively new to their positions in the cockpit. In the Henson and the Simmons accidents, the captains had been with the company for about a year and had been upgraded only recently to captain; both first officers had been with the company less than two months. In the Bar Harbor accident, the captain had been with the company for about 15 months, a captain for about one year, and in his position as captain of a Beech 99 for about three months; the first officer had joined the carrier only three months before the accident.

The Safety Board believes that the safe conduct of these three flights may have been compromised by a lack of coordination in the cockpit. Little time was devoted to cockpit coordination during training. In fact, most "training" occurred on the job. Consequently, compromises in the decision-making processes and in cockpit coordination may have been factors in all three accidents because of the limited experience of at least five of the six pilots.

The pilots who fly for these airlines are in a much better position than the FAA to observe firsthand the subtle changes that occur gradually over several months or years. It was these kinds of changes that were being reported to ALPA in the late seventies and early eighties that caused ALPA to establish a formal pilot reporting system so that safety reports could be collected and analyzed and appropriate action taken to correct problems before they resulted in a serious incident or accident. During 1986, ALPA received more than 1500 calls from pilots on the association's air safety reporting lines, resulting in the creation of 453 separate projects.

These projects dealt with items such as abuse to the minimum equipment list (MEL) concept. Although the list is called a minimum equipment list, implying a list of equipment that must operate, it is actually a list of items which can be inoperative for dispatch on revenue flights. In addition, the list is of airworthiness items only. Any airworthiness item that does not appear on the list is required for dispatch.

During the late seventies, the FAA took steps to control misuse of the MEL. Some airlines have been known to carry important MEL items for extended periods of time. To eliminate this abuse of the MEL, the FAA developed phrases for important items that forced the airline to make repairs promptly. Typical wording is, "The airline may continue the flight or series of flights, but shall not depart an airport where repairs or replacements can be made." In fact, the abuse may be worse today than ever before. Pilots are reporting an increasing number of items carried on the inoperative equipment list under the MEL concept. It has been reported that this condition exists because airlines have reduced their spare parts inventory and the number of mechanics employed, thereby reducing the number of airports where repairs can be made. Under these circumstances, some operators have interpreted the lack of spare parts or mechanics to allow them to dispatch an aircraft under the MEL concept. In the opinion of the pilots who are reporting these events, this is certainly an abuse of the MEL concept. These pilots also report that, in their opinion, the decisions to reduce spare parts inventory and mechanics are a direct result of cost-cutting measures brought about by the fierce competitive pressure resulting from the deregulated environment their employers must operate in today.

ALPA's position on the sensitive issue of air safety is normally developed through input from pilots who are volunteer workers in the association's air safety structure. In view of the conflicting statements originating from many segments of our industry, it became vitally important that we obtain the safety views of all our pilots so that ALPA could present the views of our membership as completely and accurately as possible. To accomplish this task in an unbiased, scientific manner, ALPA hired Fingerhut/Madison Opinion Research to conduct an air safety survey of ALPA members.

An analysis of responses to the survey indicates that the majority of ALPA members are very concerned about declining air safety; 43 percent said the adverse effect on deregulation on airline safety has been great; 53 percent said it has been "affected to some extent." Only three percent said it has been "not at all affected."

Among those who thought airline safety has declined with deregulation, a full 65 percent said that the decline is the result of "airline financial difficulties brought about by deregulation," while 12 percent blamed "decisions made by inexperienced airline managers."

In addition to the obvious problem areas identified in this survey, such as the risk of midair collisions and airport congestion, there were some surprises that may not be evident without a more detailed examination of the survey results. There was almost unanimous agreement among responding pilots about the gravity of some safety hazards; therefore, to some readers it might not seem significant that only 40 to 50 percent of those surveyed felt there was a problem in a given area. That, however, is not always the case.

For example, in a series of questions involving airline maintenance, approximately one half of all respondents noticed a decline in the maintenance or the airworthiness of the aircraft they were operating. Additionally, almost half of the respondents indicated that captains are sometimes pressured into accepting aircraft with an excessive number of deferred maintenance items and that aircraft are often passed through maintenance bases in spite of the fact that repairs required for inoperative items on the aircraft have been deferred for excessive lengths of time. If 10 to 15 percent had responded in this manner, it would have been a concern; however, with almost 50 percent of the responses indicating problems with airline maintenance, we truly have a serious problem confronting us.

We are, therefore, looking closely at ways to improve airline maintenance. This effort began at the ALPA Safety Forum held in July (see Air Line Pilot, September). One of the activities we are currently engaged in is a program to review the minimum equipment list (MEL) concept. In response to our urging and the FAA's own investigations, the FAA plans to publish a new advisory circular that is intended to prevent abuses of the MEL. The FAA is also considering possible rulemaking action to strengthen the application of the MEL concept. (It is interesting to note that problems like these caused pilots to band together more than 50 years ago to form the Air Line Pilots Association.)

Another area of the survey that produced some unexpected results concerned carry-on baggage. ALPA's Accident Survival Committee has been examining many aspects of this problem, ranging from the design of overhead storage bins to the influence that additional carry-on baggage can have on the accuracy of weight and balance calculations. While recognizing the potential problems associated with carry-on baggage, we did not expect that more than 80 percent of the respondents would feel that this is a safety hazard. Based on this clear indication of concern, the committee will expedite efforts to reduce hazards associated with carry-on baggage. Fingerhut/Madison Opinion Research (1986)

From a pilot's perspective, whenever operational, maintenance, or training procedures are changed in a manner that does not provide an equivalent level of safety, risk is increased. The aforementioned examples of changes, do not provide an equivalent level of safety.

3.2 Risk Assessment - Air Traffic Control System

The primary purpose of the ATC system is to provide safe separation between aircraft as they travel from point of departure to destination. During 1977, the FAA air traffic control centers handled 25,973,299 flights. The first few years of operation under a deregulated environment saw this number grow from 28,055,382 in 1978, to 29,909,712 in 1979, and to 30,061,372 in 1980. However, with the controllers' strike in 1981, the numbers dropped to 29,531,111 in 1981, and 27,854,842 in 1982. By 1984, most of the restrictions that had been placed on the system as a result of the controllers' strike had been removed, and the number of operations increased to 31,615,486, and further increased to 32,708,709 by 1985. See Figure #2

Meanwhile, the number of full performance level controllers dropped from a high of 13,300 to approximately 7,000 operational controllers in 1981 following the PATCO strike. This number has risen to approximately 11,000 operational controllers by the end of 1986. However, this leaves 11,000 operational controllers to handle almost 3,000,000 more flights per year than the 13,300 full performance level controllers handled in 1980.

It could be argued that this disparate increase in numbers alone might lead to increased exposure to risk for those using the ATC system. The problem has been further compounded, however, by the airlines' implementation of hub-and-spoke route structures. This concept has produced peak service demands at many airports, which have taxed the ATC system capability to the utmost.

The unfettered world of airline deregulation has bred huge corporate cat fights, of which, according to industry observers, there are likely to be only three or four survivors. Before deregulation, the now-defunct Civil Aeronautics Board assigned routes; now airlines are largely free to establish their own domestic routes. Cutthroat fare wars, scheduling wars, and route wars rule the day. If reality does not demand it, marketing does: To stay in the game, every airline must have a 4 p.m. flight to Chicago.

The Transportation Department, which receives more consumer complaints about late or canceled flights than about any other airline problem, has targeted the scheduling wars. The department zeroed in on Atlanta, where Eastern and Delta Air Lines dominate operations, and began an investigation of scheduling practices to determine whether airline schedules are overly optimistic about departure or arrival times.

At the urging of Transportation Secretary Elizabeth Hanford Dole, the FAA convened a series of scheduling meetings in Washington, D.C., during April, 1987, and attempted to persuade rival airlines operating at Atlanta, Chicago, Philadelphia, Dallas, and Newark to adjust flight times voluntarily.

The airlines, countering that the issue is too complicated to be solved by fixing schedules, went to the meetings reluctantly, gave up some flight times at some airports, and then left town after four days with the snarls at the two busiest airports -- Atlanta and Chicago -- still to be unraveled.

AIR TRAFFIC ACTIVITY
AT AIR ROUTE TRAFFIC CONTROL CENTERS
BY AVIATION CATEGORY

FISCAL YEARS 1979-1985

	Year	Total
Total IFR Aircraft Handled	1985	32,708.709
	1984	31,615,489
	1983	29,361,418
	1982	27,854,842
	1981	29,531,111
	1980	30,061,372
	1979	29,909,712

Source: Federal Aviation Administration Air Traffic Activity Reports Fiscal Year 1981 and Fiscal Year 1985

FIGURE 2

Airlines uniformly fault the FAA for not hiring and training new air traffic controllers quickly enough since President Reagan fired 11,400 controllers six years ago during an illegal strike.

"The strike was the largest disaster ever visited on any industry," said Clark Onstad, vice president of the Texas Air Corp., which has absorbed Eastern, Continental, People's Express and Frontier airlines. "A pledge was made to rebuild the air traffic control system, and that pledge has not been kept. In January and February, 1987," Onstad said, "Eastern experienced 5,984 delays from air traffic control, compared with 3,820 in the same period in 1986." Parker, Laura (1987)

Atlanta was one of the few airports that worked as a hub even before deregulation forced airlines to cluster their operations around a major airport. Today no airline can survive without a hub, a fact so familiar to the industry that the noun "hub" is now used as a verb. "Hubbing" geometrically increases the number of flights an airline can operate, which increases the number of passengers it can carry and reduces its costs.

The airlines say it is not as easy to spread out flights as the FAA would have the public believe. An airport hub, with planes coming and going in sequences, is timed as delicately as a ballet. Airlines believe passengers would not tolerate getting in at 7 o'clock and leaving at 9. A passenger wants to get off the plane, go next door, get on another plane, and leave. Spreading out schedules is also expensive, as Piedmont Airlines discovered when it adjusted its schedules in 1986 to reduce delays. Piedmont found that to fly a spread-out schedule, it needed four more planes, each costing $30 million.

After the scheduling meetings broke off in Washington, the FAA's review of the proposed summer schedules indicated that problems would still be faced in Atlanta. Between 10 and 11 a.m., there are 95 scheduled arrivals. The ATC system can handle 80. That means 15 will not get in on time. Parker, Laura (1987)

The result of more aircraft handled by fewer controllers, combined with an overall lower experience level both on the part of the personnel on the ground and in the air, has been a dramatic increase in the number of operational errors in the airspace surrounding the busy airports. An even more startling increase has occurred in the number of runway incursions and the number of near midair collisions.

On March 31, 1985, two Northwest Airlines DC-10's nearly collided at the Minneapolis-St. Paul International Airport, Minneapolis, Minnesota. One airplane, Flight 51, was taking off, having been cleared for takeoff by the local controller. The other airplane, Flight 65, was taxiing across the same runway after having been cleared to do so by the ground controller. The captain of Flight 51 averted a collision by lifting off below the recommended takeoff speeds. Because of poor braking conditions and limited space in which to stop, he had no alternative. Flight 51 lifted off and overflew Flight 65, reportedly clearing the other DC-10 by 50 to 75 feet. None of the 501 persons aboard the two airplanes were injured and neither airplane was damaged. National Transportation Safety Board (1986)

Because of the Minneapolis incident and the frequency and the potential severity of similar incidents, in July, 1985, the Safety Board initiated a special investigation of runway incursion incidents and accidents. The purpose of the special investigation was to investigate selected runway incursions to determine their underlying causes and to recommend appropriate remedial actions.

A memorandum dated March 7, 1986, from the FAA's Associate Administrator for Air Traffic to all air traffic managers, acknowledges that the runway incursion problem requires further action. The memorandum reports that although operational errors decreased significantly overall in 1985, surface operational errors in 1985 were up 32.5 percent over 1984 and the growth of terminal errors "continued to climb in 1986." The memorandum stated that 86 of 102 surface operational errors reports in 1985 were attributed to the local controller. Most instances reportedly involved situations where the local controller forgot what had previously been coordinated. In January, 1986, local controllers were held responsible for eight of the nine errors reported. The memorandum expressed the view that the key to the problem of surface operational errors is to devise methods that will aid the local controller in remembering traffic and to stress the importance of teamwork and coordination. National Transportation Safety Board (1986). On May 17, 1986, at Chicago O'Hare, a USAir DC-9 and an American Airlines B-727 were involved in an incident similar to the one at Minneapolis-St. Paul involving the two Northwest DC-10's.

According to FAA statistics, the number of operational errors in the terminal area continue to increase (292 in 1983, 388 in 1984, 411 in 1985, and almost 500 in 1986). Also, the number of runway incursions continues to grow (88 in 1983, 77 in 1984, 103 in 1985, and over 400 in 1986). No accidents or fatalities have been associated with these occurrences so, in the view of those who like to look at accidents as an indicator of how safe or unsafe our system is, we may take comfort in this situation. However, from a pilot's perspective, these numbers represent good statistical trend information, and the trend appears to indicate an increase in exposure to risk. Therefore, we feel that safety has been compromised. See Figure #3

Another indicator of risk exposure is the occurrence of near midair collisions. As stated in Section 3 of this paper, the FAA once used the rate of occurrence of near midair collisions as a system safety indicator. However, all that changed when it was proven that the FAA data collection and analysis methods for near midair collisions reports were faulty. The ALPA air safety survey referred to in Section 3.1 of this paper also addressed the problem of near midair collisions. Survey results show that approximately 70 percent of the responses indicated that near midair collisions were a severe problem and approximately 75 percent of the respondents said that ALPA should give high priority to development of an adequate collision avoidance system.

These responses were received prior to the midair collisions which occurred over Los Angeles and Salt Lake City in August, 1986, and January, 1987. These collisions proved that the risk indicator, in this case the rate of occurrence of near midair collisions (475 in 1983, 589 in 1984, 775 in 1985, and over 850 in 1986), was all too accurate. It also appears that, as long as the number of airplanes operating in the system continues to grow, the exposure to risk will also continue to grow. See Figure #3

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NEAR MIDAIR COLLISIONS
OPERATIONAL ERRORS
PILOT DEVIATIONS
RUNWAY INCURSIONS

EVENT	1983	1984	1985	1986
Near Midair Collisions	475	589	777	839
Operational Errors:				
Terminal	292	388	411	443
Total	721	1885	1403	1207
Pilot Deviations	N/A	N/A	1818	2008
1/ Runway Incursions:				
Surface Operational Errors	88	77	103	115
Surface Pilot Deviations	N/A	N/A	N/A	400 2/
Total	88	77	103	515 2/

N/A = Not Available
1/ = Not including vehicle or other conflicts
2/ = Preliminary

Source: Federal Aviation Administration Office of Aviation Safety

FIGURE 3

3.3 Risk Assessment - Federal Budget Deficit and FAA Resources

On September 8 and 9, 1977, the House Government Activities and Transportation Subcommittee held hearings concerning the FAA's ability to cope with a deregulated U.S. airline industry.

While not responsible for deregulation legislation, the FAA is responsible for aviation safety matters and, therefore, the subcommittee became properly alarmed that what was being proposed in the Senate and by the House Subcommittee on Aviation could seriously degrade aviation safety if certain fundamental changes in the industry were to take place. The subcommittee posed certain questions:

- Are the Federal Air Regulations (FAR's), and the airline operating procedures required by them, stringent enough?
- Does the FAA have sufficient statutory and regulatory powers to ensure the continued high safety performance of air carriers?
- Does the FAA have sufficient inspector manpower to detect, in advance, changes in airline management and operating procedures that might create safety problems?

In reference to the FAA's assurance that regulatory reform would cause no safety problems, the chairman of the House subcommittee, Congressman John Burton declared to FAA Administrator Langhorne Bond, "You may be totally right, but I will bet you this. You have not done a study or your homework, and you really don't know whether you are right. That is our concern."

During the hearings, it became clear that the FAR's are minimum regulations, and ALPA President J. J. O'Donnell, among others, vigorously stressed that point. O'Donnell said, "The operating practices, training, and procedures for cockpit crews, cabin crews, and ground crews are developed by the manufacturers and airlines, although basically approved by the FAA, and substantially exceed the minimum requirements of FAA regulations in almost every case."

Proof of this fact was introduced by representatives of Western Airlines, who pointed out the gap between FAA requirements and the current acceptable level of experience at their airline. A typical Western captain earns that rank after 11 years and about 9,000 hours of WAL commercial jet flying time added to 2,400 to 5,000 hours acquired before hire by the company. The FAA requires only that a captain be 23 years old and have 1,500 hours of total flight time.

The subcommittee found three potential weaknesses in the FAA's current system of allowing individual airlines to write their own operations manuals and set their own standards:

"First, although FAA approves these documents, the air carrier or the manufacturer usually drafts them. The industry's role appears to be a dominant one. . . . If the air carriers' disposition toward safety worsens because of regulatory reform, this could become a major weakness.

"Second, FAA apparently has no legal authority to prevent significant changes in operating practices, which are specified in the training program and operations manual. These changes might have an impact on safety. Considering the changes in the airline industry which regulatory reform might cause, limited FAA regulatory power is totally undesirable. FAA must insure that what is nonenforceable is truly unimportant. . . .

"Third, a major weakness is caused by FAA's use of exemptions. . .or by its ability to exempt air carriers from provisions of their operations specifications or other regulatory company documents. In all cases, an equivalent level of safety is supposed to be provided. However, since exemption requests are not published in the Federal Register, the concerned public therefore is not notified and cannot comment on these requests. Currently, the only judge of whether an equivalent level of safety exists as guaranteed under the exemptions is FAA itself."

The subcommittee was also concerned with the concept of self-monitoring of safety standards by the airlines, a practice which has increased in recent years because of the steady decline in the number of Flight Standards Service field personnel. As Captain O'Donnell pointed out in his testimony, "FAA's mandate to supervise safe maintenance procedures has evolved into merely monitoring the airlines' maintenance logs."

A Western Airlines official, James L. Mitchell, supported O'Donnell's observations and described the FAA's surveillance over his airline's maintenance program as minimal. He pointed out that "the nitty-gritty, minute-by-minute, day-by-day monitoring of maintenance safety at Western Airlines is done by Western Airlines, not FAA." His view was confirmed by officials of United Airlines.

The subcommittee expressed concern that, if deregulation legislation were to permit easy entrance of new carriers into the marketplace, they may not all have the expertise to operate safely. "New entrants into the certificated air carrier market might be unwilling or unable to make the massive investments in safety-related programs made by existing carriers," the report stated. "An air carrier encounters substantial financial stress during its initial operating period that can affect its safety disposition and performance."

The lack of manpower within the FAA to monitor new entrants properly was also considered by the subcommittee. "If regulatory reform is implemented," the report said, "it is absolutely imperative that FAA, the Department of Transportation, and the Office of Management and Budget be prepared to commit adequate resources so that new entrants are rigorously subjected to certification and initial surveillance by FAA."

Increased competition between airlines under deregulation was also discussed by the legislators. It is probable that some existing carriers, under relaxed route entry and exit and increased freedom to set prices, "may start to 'cut corners' in safety-related areas," according to the subcommittee report. This concern was voiced by many witnesses, including the subcommittee chairman.

At one point Chairman Burton said, "I have this concern, which has been expressed by others. When you are in the marketplace, the most important thing for you to do is to keep that nut down. When you have to keep the nut down, then you have to cut somewhere. The easiest places to cut sometimes are the places that no one sees. You could drop off a mechanic if you had one extra. All of a sudden you might have one and one-half when you had three before. So the public wouldn't see that."

The growing commuter airline industry came in for its share of scrutiny by the subcommittee because the liberalization of route exiting would make it easier for commuters, operating in an essentially unregulated environment and under a less stringent set of regulations, to fill the void created by the withdrawal of the large carriers from certain routes. "What we're doing by giving the major carriers the right to abandon the routes," Chairman Burton said, "is to give the customers the right to have less safety." The subcommittee report added: "The lower safety record of the commuter airline industry apparently is the direct result of FAA regulatory inadequacies."

The subcommittee's findings, published in 1978, condemned the FAA for failing "to develop comprehensive plans to contend with safety problems that may be caused by the implementation of current proposals for regulatory reform. What plans have been developed by the FAA are incomplete and a direct result of the subcommittee's investigation." While it was recognized that the current level of safety in scheduled passenger air carrier transportation "was remarkably high," full credit did not belong to the FAA, in the subcommittee's opinion. "Since the FAA relies extensively on the air carrier industry for both standard-setting and monitoring, industry self-regulation is just as much responsible for the level of safety, if not more so," the committee concluded.

The FAA's issuance of exemptions to the FAR's that do not provide for public notice and comment "is a dangerous regulatory weakness which might be aggravated under regulatory reform," the report said. In fairness, the report noted that the agency "is currently considering a proposed rule that would provide for notice and public comment on requests for exemptions to FAR's."

In its list of recommendations, the subcommittee recommended that the FAA develop proper plans, expedite the above-mentioned rulemaking, increase its monitoring of new entrants as well as of existing carriers, and carry out proposed revisions in FAR Part 135 to "insure that commuter airline passengers are provided a level of safety equivalent to that provided air carrier passengers." In addition, "FAA should insure that it has clear regulatory power to prevent any modification in air carrier operational practices that might decrease aviation safety."

Exercising a privilege not often seen on Capitol Hill, Representative Burton appended supplemental views to the report which said in part: "One thing stands out clearly in the report: Airline deregulation will have an impact on safety, and FAA has done little to prepare for it. The subcommittee's investigation found an FAA reacting to criticism, responding to questions, and answering inquiries. What the subcommittee sought in vain was an FAA taking the initiative on the vital matter of public safety. Unfortunately, this report shows a degree of complacency and defensiveness which has inspired anything but confidence." Glines, C.V. (1978)

During the years which followed this congressional hearing and committee report, two primary factors prevented the potential impact of deregulation from falling squarely on the FAA, as forecast by the congressional committee. These were the two previously discussed factors: the depressed U.S. national economy and the air traffic controllers' strike in 1981, both preventing the industry expansion that was envisioned under deregulation. However, as the national economy improved and the ATC system regained more of its pre-strike capacity, the impact of deregulation on the FAA became much more obvious. Public and congressional interest was aroused after a series of accident and incident reports questioned the FAA's ability to inspect all operators adequately.

In response to the concerns of some that the recent growth of the air carrier industry had the potential to create safety problems, the Secretary of Transportation, on February 13, 1984, directed the Administrator of the FAA to conduct a nationwide inspection of the safety of the air transportation industry. U.S. Department of Transportation (1984)

On March 4, 1984, the Administrator responded to the Secretary's direction by initiating, through Notice 8000.246, a 90-day, two-phase National Air Transportation Inspection (NATI) program.

The following statements are taken from the FAA 1985 Memorandum on Evaluation of the NATI reports, which analyzed the results of the NATI inspection program.

> The Federal Aviation Act assigned to the Civil Aeronautics Board (CAB) broad economic authority over the air transportation industry, but some of this authority terminated with the passage of the Airline Deregulation Act of 1978. Deregulation brought about significant changes to the industry, which included an almost explosive growth in the number of applicants for air carrier certification for which the FAA is responsible. During the period from 1978 to January, 1984, however, the FAA's Aviation Standards Field Inspector staff diminished from 2,012 to less than 1,400, a decrease of more than 30 percent.
>
> The Act and regulatory requirements place certain continuing obligations on the management executives of Part 121 and Part 135 operators. Deregulation of the airline industry did not diminish management's obligation to comply with the FAR's and to provide the highest possible degree of aviation safety. However, deregulation brought an influx of new operators into the airline industry, each requiring considerable attention and time from the FAA aviation safety inspectors in the field. Time that was normally spent on routine inspection and surveillance of established operators had to be diverted to new operators or existing operators that had expanded the scope of their operations as permitted by deregulation. Therefore, the responsibility of the individual air carrier's management to monitor its own compliance with FAR's became more critical.

The analysis report went on to state that new operator certification and additional approval work for existing operators are on-demand efforts, often with short deadlines, which place increased workloads on the FAA field inspectors to meet deadlines requested by the operators. A review of Phase II inspection reports indicated that a number of operators permitted established programs to deteriorate as a result of their poor voluntary compliance attitudes and insufficient FAA surveillance. In addition, many operators suffered from the appointment of management officials with inadequate or questionable airline management qualifications. The inspection team concluded from its review that operations and maintenance manuals with a wide variety of required related programs were presented for approval, then hurriedly and inappropriately approved. The improper compilation and approval of these manuals and programs have compounded the workloads for both air carrier officials and FAA inspectors.

The FAA report indicates that in the NATI Phase I, inspectors wrote more than 13,600 aviation inspection reports. A large percentage (20.5%) of these reports contained comments indicating noncompliance with the safety standards prescribed by the FAR's. Air carrier management is ultimately responsible for assuring compliance with the safety standards provided by the FAR's and other established good/safe operating practices, and therefore should be held accountable for the high rate of noncompliance.

Despite the apparent decrease in the quality of air carrier management, there also was an apparent deemphasis of FAA legal enforcement action. In a review of the FAA Enforcement Information Systems Codes Report of November 15, 1984, the number of times specific regulations were cited in enforcement actions initiated by Flight Standards decreased 20 percent from 1981 to the end of 1983. Preliminary data for 1984 indicate that there was an even more significant decrease during that year.

The same review showed that the total number of enforcement actions initiated by Flight Standards has decreased by 25 percent during the same period. Again, the 1984 data indicates a continuing decrease in the actions initiated by Flight Standards. Federal Aviation Administration (1985)

In late 1978, a complete rewriting of Part 135 required the FAA to recertify approximately 4,000 air taxi operators, including commuter operators. This recertification effort placed a heavy workload on the FAA's inspector force.

From 1978 to the present, the number of carriers certificated under FAR 121 increased from about 60 to about 150 (250%), which generated significant additional workloads for the assigned inspectors. As these events took shape, the FAA's inspection and surveillance activities were seriously degraded in number and quality.

Meanwhile, as stated previously, the FAA Aviation Standards field inspector staff decreased in size from 2,012 in 1978, to 1,332 by the end of 1983. A telephone discussion with the Airworthiness Unit Supervisor of a large General Aviation District Office (GADO) having considerable air carrier responsibility revealed that when a Principal Maintenance Inspector (PMI) retired in January, 1985, the remaining Principal Operations Inspector (POI) and PMI had, in addition to other assigned duties and responsibilities, certificate responsibility in his or her own specialty for 70 air taxi operators, including three commuters. The office averages 15 new air carrier certification actions per year. In 1977, the technical staff of this office, excluding supervisors, consisted of six Principal and five Journeyman Operations Inspectors, five Principal Airworthiness Inspectors, and one Avionics Principal Inspector. These examples are illustrative; many more could be set forth.

In many cases, the FAA Phase II in-depth inspection teams mentioned inadequate/decreased staffing and increasing workload as causes for many of the discrepancies found during the inspection. The team, both from the review and evaluation of the inspection reports and from the members' personal experience, concurred that inadequate staffing and increased workloads are causes for the high number of discrepancies associated with inadequate surveillance and certificate administration problems. The circumstances of the past six years appear to have combined to create a serious deficiency in the FAA's capability to monitor the health of existing carriers. Certificate administration and surveillance have both deteriorated in the face of an increased workload in both original certifications and additional approvals.

The analysis provided the following conclusions:

(1) The FAA inspector staffing is inadequate to accommodate overall responsiveness and responsible certificate administration, and for sufficient surveillance activity, to ensure the desired level of safety in air transportation.

(2) If not dealt with, this situation contains an increasing potential for further safety compromises in the future. Federal Aviation Administration (1985) See Figures #4 and #5. Note: The number of inspectors are authorized levels not actual number of employees on payroll.

The Allen Corporation Safety Inspection Program Review, conducted under contract to the FAA, also highlighted the problem of the inspectors' inability to complete work under unrealistically short deadlines, and the admitted resulting compromise of standards under pressure. Allen Corporation of America (1985)

According to a limited NTSB report issued October 9, 1986, on the current rapid pilot turnover and the hiring of less experienced pilots in the commuter industry, a solution to problems related to inexperience could be to request commuter airlines to schedule flightcrews so that relatively inexperienced captains are teamed with experienced first officers and that inexperienced first officers be scheduled to fly only with senior captains.

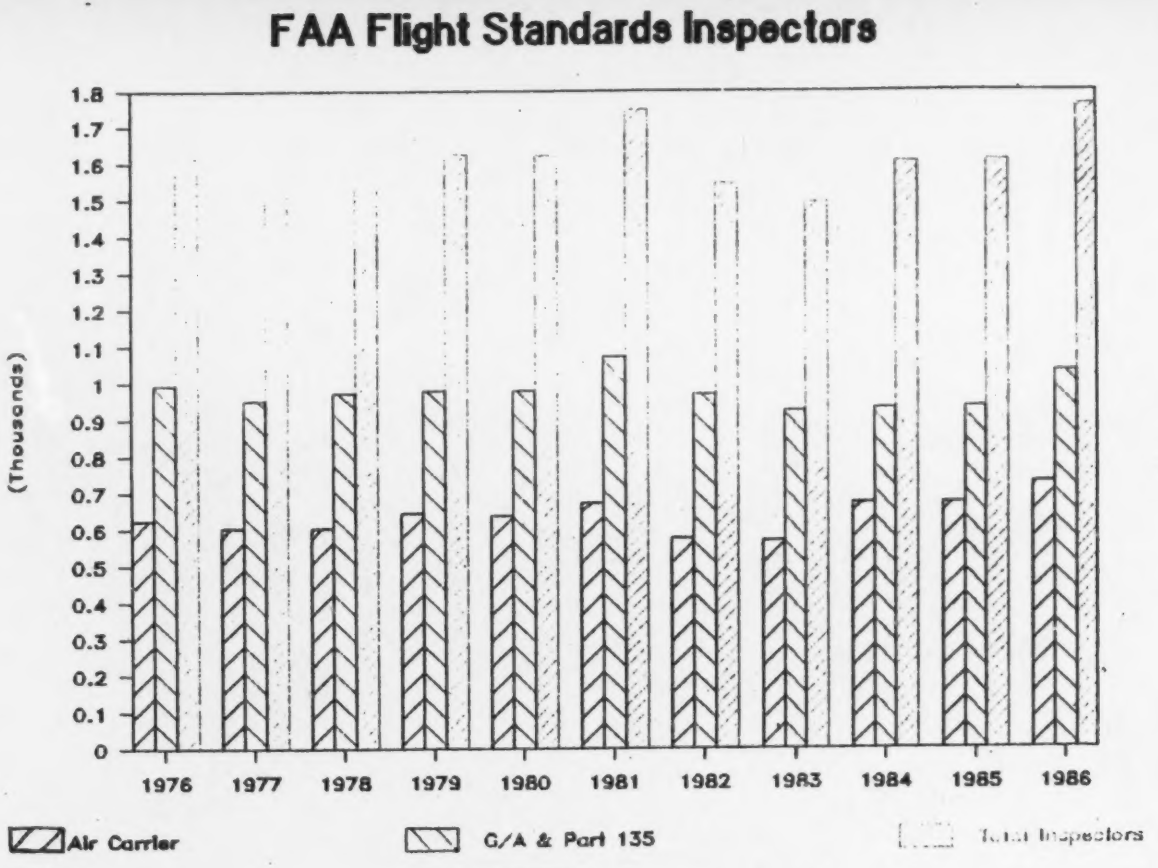

FIGURE 4

Source: Federal Aviation Administration Office of Program and Regulations Management

FIGURE 5

Source: Federal Aviation Administration Office of Program and Regulations Management

The board believes, however, that the underlying problem with respect to pilot experience may be found in the FAA's check airman program and the agency's surveillance of that program. The Safety Board's findings of inadequate knowledge of standards for line flying among senior instructor pilots at Bar Harbor Airlines, the less-than-adequate instrument training methods used at Henson Airlines, and the sudden surge in checkride failures of pilots at Henson Airlines indicate inadequate training or compromises in the check airman program. The board's investigations of these accidents revealed that the POI at Henson Airlines had not monitored any Beech 99 checkrides for three months, and that the POI at Bar Harbor Airlines had not monitored any Beech 99 checkrides for at least five months. Therefore, the Safety Board believes that pilot training may have suffered due to the absence of FAA oversight of the check airman program and that this lack of oversight prevented the detection of the less-than-adequate pilot supervision in line flying and the failure of crewmembers to adhere to established procedures and company standards. The Safety Board believes that the FAA should strengthen its oversight of the check airman program and ensure that both training and check rides by designated check airmen are performed to the highest standards and in a standardized manner.

In all three accidents, the time available to the POI to maintain effective surveillance was severely curtailed. In the case of Henson and Simmons Airlines, the POI's had been occupied for a number of months with preparations for the addition of a new airplane to the airlines' fleets. The POI for Simmons estimated that more than 90 percent of her time was devoted to the new airplane. The POI for Bar Harbor Airlines testified that he did not have time to carry out his surveillance and inspection tasks effectively because of the increased workload associated with overseeing the operations of 20 other certificate holders.

Surveillance of the air carrier industry has been a longstanding concern of the Safety Board. Since 1978, the Safety Board has conducted 15 air carrier accident investigations in which deficiencies in FAA surveillance were cited. The board has maintained that a sufficient margin of safety in an air carrier operation can be achieved only through sustained and discerning surveillance by the FAA. In its 1980 special study on commuter airline safety, the Safety Board concluded that:

1. The FAA should have seen, from the ample evidence available before 1979, that the agency needed to strengthen its commuter surveillance programs.

2. The FAA has been slow to recognize that FAA inspector workloads and GADO staffing levels do not allow adequate surveillance of the commuter industry.

While the FAA has responded positively in many instances to numerous safety recommendations on the subject of surveillance, these three accidents are evidence that the same problems continue to exist.

The Safety Board has indicated approval of the latest efforts of the FAA to alleviate the surveillance problems of the commuter airline industry. The hiring of additional well-trained inspection personnel and the objectives of the FAA's Safety Activity Functional Evaluation (SAFE) program will assist in providing adequate surveillance. However, these measures, in many instances, are still in their infancy and consequently will require a period of time before they produce measurable benefits. The Safety Board has stated that the continued dynamic growth of the commuter industry and these latest accident findings warrant the development of more timely interim measures, procedures, and guidelines. The Safety Board has stated that a minimum level of direct surveillance should be established in terms of periodic assistance visits, maintenance inspections, airplane checkrides, etc., to oversee commuter air carrier operations and that the required level number of personnel required to execute such a program should be identified for each Air Carrier District Office having oversight responsibilities of commuter air carriers. Additionally, guidelines should be developed and issued to provide for continued surveillance of commuter air carriers during periods when the POI is unable to perform these duties.

The current high demand for pilots, coupled with an increasing pilot shortage, will produce gains for experienced pilots who may want to shop around for the best salary before locking themselves into a long-term commitment. Massive retirements in the late 1980's should continue to modify or eliminate the B-scale for pilots and give new-hires a better chance of upward mobility and less chance of being furloughed.

The results of the special inspections undertaken by the FAA are verified by the day-to-day experiences of ALPA member pilots operating in the air transportation system. The ALPA air safety survey previously mentioned in this paper indicates that the number of full-service maintenance bases operated by the airlines had decreased in the past two years. Pilots responding to this survey indicated that aircraft often passed through maintenance bases and repairs were deferred for excessive lengths of time and that captains are sometimes pressured to accept aircraft with an excessive number of deferred maintenance items. They also noted a general decline in the maintenance or airworthiness of their aircraft and put the burden of responsibility for this situation on the "failure of government decisionmakers to provide FAA with the resources needed to carry out adequate inspections." Fingerhut/Madison Opinion Research (1986)

The decline in the FAA's inspection and enforcement capabilities is directly associated with a reduction in financial resource commitment by the Administration and Congress. This unwillingness to provide needed resources has caused personnel reductions and delayed needed improvements in FAA facilities and procedures.

The effects of this lack of commitment to provide necessary funds have been compounded by the Balanced Budget and Emergency Deficit Control Act of 1985. This act, which is directed toward reducing the present federal budget deficit, required a 4.3 percent across-the-board cut in the fiscal year (FY) 1986 budget for FAA. Obviously, mandatory budget cuts of this nature make it difficult to provide additional resources for the FAA. Therefore, the check and balance system of the FAA inspection and enforcement responsibilities has been severely impaired. Without an effective check and balance system, exposure to risk for passengers and crews has increased almost directly in proportion to the reduced effectiveness of the FAA to carry out its inspection and enforcement mandate.

4. SUMMARY

As previously stated, the purpose of this paper is to examine the influence deregulation has had on the industry's ability to maintain its high safety standards.

Historically, it has been proven that the financial health of an airline has a great influence on how safe that airline is. This historical precedent has been reaffirmed under the fierce competitive environment brought about through deregulation. This fact has been verified by a number of government and industry reports.

Deregulation has produced increased demands on the FAA to certificate new operators, to conduct inspections, and to take enforcement action where necessary. However, the FAA has not been provided the necessary resources which would enable the agency to respond to these demands. Also, the FAA's ability to provide ATC services for a very dynamic industry, an industry whose dynamic nature is driven both by deregulation and the economic climate of the country, has been seriously impaired by a lack of resources and the 1981 ATC controllers' strike.

There are many potential cures to this problem. Some people suggest various forms of reregulation. However, there is one common factor evident in almost all of the risk factors discussed in this paper. That factor involves the commitment of financial resources by the Administration and Congress to the FAA. This commitment, if properly fulfilled, would provide the FAA with the ability to inspect adequately all the facets of the aviation industry and, when necessary, take enforcement action so that financially troubled airlines would either meet their regulatory requirements or cease to operate. This commitment of financial resources would also give the FAA the ability to provide safer ATC system services through additional controllers and improved facilities.

The Administration and Congress can provide the necessary financial support to insure the safety of the passengers and pilots who use the air transportation system. In fact, they are legally bound to do so. The government has levied taxes on airline passengers, the airlines, and general aviation. These taxes were established to support the Airport and Airway Trust Fund. This trust fund, created in recognition of the role of aviation in the U.S. national economy and public benefits derived from a safe and efficient air transportation system, had a nine billion dollar surplus as of December 31, 1986. There is no conceivable reason why these funds should not be used for the purposes intended.

Earlier in this paper, safety was defined as exposure to risk. From a pilot's perspective, all of the previously mentioned factors have had an impact on safety because to some degree they have all produced incidents which have exposed pilots and passengers to greater risk. This risk exposure may be exhibited in changes to operational, maintenance, or training practices undertaken by financially strapped operators or by operators influenced by poor decision making on the part of inexperienced management or employees. This increased exposure to risk is also influenced by the FAA's limited ability to inspect adequately the growing number of operators. Without adequate inspection, questionable operational, maintenance, or training practices may go unchecked until a fatal accident occurs. Risk exposure has also increased as a result of the increased number of aircraft flying in the ATC system. This increase in risk is evidenced by the increase in runway incursions, pilot deviations, operational errors, and near midair collisions. Looking at this situation, only one conclusion can be reached. Pilots and passengers have been exposed to greater risk today than they would have been in a regulated airline industry, similar to that which existed prior to the Airline Deregulation Act of 1978.

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Mr. CHRISTENSEN. Mr. Chairman, Captain Oswald has something he would like to say.

Mr. MINETA. Sure.

Captain OSWALD. Mr. Chairman, one of the reasons that the statistics might point to a higher accident rate in 1977 and 1978, I believe, and a little higher in 1987 is they both correspond to a peak hiring time within the air carrier industry. That is when the airlines were doing a great deal of hiring from the commuters, you had a new group moving into the commuter airlines during both time periods you mentioned.

Mr. MINETA. Yes, but the thing is that regardless of what may have been happening in 1978, it is just that, statistically the accident rate was much worse in 1978 than it is now 10 years since deregulation. There may have been a lot of new hires or whatever happening in that 1978 time period, but just in looking at the raw statistics, it is a safer environment today than it was in 1978. That is the all I am saying.

As Mr. Schwind says, however, there are other factors to consider. Simulator training of pilots is the norm in the major airlines, while with the commuters, as you have indicated, it is practically nonexistent. What would you suggest be done in this area about the high cost of simulators? We were talking about maybe shared facilities or whatever.

What do you think ought to be done?

Mr. CHRISTENSEN. It is a common practice that many of the regional airlines that operate larger jet equipment will go to other airlines and use other airline facilities. They will use simulators that are overseas or out of their immediate areas.

Years ago, many of the regional airlines used what they called the CPT or the cockpit procedures trainer. It was very successful. It did not have movement, of course, but it taught the procedures that were necessary to be used during emergencies.

This was never brought into regulation by the FAA. It was just an agreement between the product groups and management that this would be included as part of the training, and it worked very successfully 10 years ago.

You don't see much of it anymore, at least, I haven't been informed of its use by any of the regional airlines I have been involved with.

I liked what Captain Green said earlier about military pilots. Captain GREEN. We have heard a lot about experience levels among the crew members. One of the analogies I made for a long time is that the military puts a man in an airplane that is five times as fast as the one I fly and is five times as sophisticated and heavy with 10 percent of the average flight experience that a new hire in the regional airlines has.

I am not proposing that we train like the military, but I will tell you the way they do it is through rigid standardization and good training.

I don't know that we can afford to be as standardized as they are, but we can certainly put more emphasis on standardization and put a little less emphasis on the experience level. If we train the man, standardize him, check him properly, his experience doesn't have as big an impact, whereas what I hear a lot of is this

guy didn't have much experience. What I think that says is he didn't have enough experience to overcome the management shortcomings and lack of standardization that the industry has.

That is why the man needs experience today.

Mr. MINETA. I think that is the point that Dr. Lauber was making also.

Now, with respect to flight time, in your statement, you mentioned schedule abuse whereby the schedule always takes longer to fly than it says on the books. I am wondering if you have brought this to the attention of the FAA, and, if you have, what has been their response to this practice?

Mr. CHRISTENSEN. In most cases, the individual airlines will do this through their own principal operations inspectors. The abuse of it is that per the regulations—the airlines can legally show compliance. Here is an example—let's take a 6-day series of trips. He is going to fly three overnights: he flies the first day starting out at 5:30 in the morning and flies until 6 o'clock at night, comes back out the next morning and flies a short series of trips, with maybe two or three takeoffs and landings, and he is done at 10 o'clock in the morning.

He then has off from 10 o'clock in the morning until 5:30 the next morning, and he flies the same trip all over again. He then comes in and does the same trip on the third series, and by the end of the week, he has probably flown anywhere up to but not to exceed 30 hours and made anywhere from 30 to 35 takeoffs and landings in that timeframe.

This all results in legal rest. However, I have had written reports from pilots that they are in a constant state of cumulative fatigue and can't recover in one or two or three days off after a series of trips like that.

Mr. MINETA. Are you suggesting then that the part 135 and the part 121 flight time/duty time regulations be equalized?

Mr. CHRISTENSEN. ALPA has always wanted one level of safety and one level of flight time/duty time and training, one level, period.

Mr. MINETA. So, you think that it ought to be the same for part 135 as for the part 121?

Mr. CHRISTENSEN. Absolutely.

Mr. MINETA. It is my understanding that in part 121 operations, it is rare for a pilot to hit the flight time limitations. Also, work rules negotiated between the company and the union also prescribe that the in-practice flight time limitations are more stringent than the FAA minimums.

Mr. CHRISTENSEN. That can be true.

Mr. MINETA. I am wondering if that is also the experience of the commuter airlines.

Mr. CHRISTENSEN. Not always. You are exactly correct when you say the only real avenue to eliminating this abuse is contract negotiations between the management and the pilot group.

We see that with some of our airlines, some of the ALPA airlines. On the other hand, we also have commuters that operate strictly by the FAR's, period. I guess the most classic example of that is what recently happened to AVAir.

Captain GREEN. At AVAir we had a contract which imposed stricter flight time limitations. During the experience, of the bankruptcy that you referred to earlier—one of the things that happens when you experience a bankruptcy is the company will approach you for concessions in your contract. They did that to our pilot group.

The concessions that we were approached for and that we approved, since there didn't seem to be any alternative, was working strictly to the FAR rules. So, we no longer have any strict contract restrictions at this time. We are working right to the book.

Mr. MINETA. So, if there is to be a future give-back, where would that come from?

Captain GREEN. In our case, there won't be any future, because we are being bought by the AMR Corporation. Our contract will cease to exist.

The way the concessions were written was for them to expire at the end of a 90-day period. At the end of the 90 days, however we will be a new company, so it is very difficult to sort out.

We will probably work to the FAR's for some period to come. That includes, I might point out, an interesting concept that some airlines have taken known as a "continuous duty trip" in which, because of the hub and spoke mechanism, they initiate the trip at, for example, 8 o'clock at night. The crew flies one leg to an out point from the hub. A pilot who overnights in this case may have 6 to 7 hours in the hotel. He returns in the morning, and then is off during the day. Their legal rest period occurs between, 8:00 in the morning and 8:00 at night.

That is where their legal rest period is. Of course, they are still functioning like normal people and trying to sleep at night when they are in the out station. We do a considerable amount of that right now, back to back, successively, day after day.

Mr. CHRISTENSEN. I might add that is the norm or was the norm before you could come get a contractual agreement.

Captain WILSON. We also have that very thing at Metro Airlines. We had a schedule shift that used the continuous duty day.

We also have had a schedule which overnights in Louisiana that got you there late at night. I believe it was 45 minutes to get from the airport to the hotel. By the time you got to the hotel, got checked in, got into your room, unpacked, you probably got to bed and to sleep about 11:30 p.m. There was a 5:55 a.m. show in the morning on that schedule which means you have to get up at 3:30 in the morning to shower and shave, get in your uniform, pack up, get in the hotel van, and run back out to the airport.

So, you are looking at probably 4 to 5 hours behind the door in the hotel, and that excludes eating.

The day that schedule ended was a 10-leg day. The next day was a 6-leg day, and you got off somewhere around 2:30 in the afternoon.

That schedule was really pushing the limits of the FAR's. It was legal but it was not realistic safe.

Mr. MINETA. Captain Wilson, you made one last comment there I did not hear.

Captain WILSON. That schedule was under FAR 121 rules. We are one of the airlines that operate under both sets of FAR's. It is 121 in Dallas. In Atlanta, we have a different setup.

Mr. MINETA. And the part 121 is flying what kind of aircraft?

Captain WILSON. We were flying Saab 340's.

Mr. MINETA. Captain, you referenced the high turnover in the commuter pilot ranks. This is a real concern, I think, for a lot of us. I am wondering what you would recommend doing about this.

A lot of the pilots are leaving to take jobs with the major airlines. Is there much thought being given as to how to deal with that issue?

Mr. CHRISTENSEN. The reason of course, if you are a young man today and you enter the airline industry or aviation, you always want to fly the biggest and the fastest and you want to make the most money.

Unfortunately, you don't always step right into that position. I know that Northwest Airlines is working with the University of North Dakota on an initiative training program, and some of our airlines are working on farm systems.

Mr. MINETA. Let me take as an example, does the Pan Am Express system where they have the integrated contract for the commuter as well as their regular carrier operations encourage the pilot to stay within the ranks of the commuter as compared to one that——

Mr. CHRISTENSEN. Absolutely. It also is the quality of the carrier. We see it at my own airline where——

Mr. MINETA. Captain, you are with whom?

Mr. CHRISTENSEN. I am with Air Wisconsin, and the quality of the airline and the training and perhaps the equipment and the pay scales make the turnover rate very low. On the other hand, deregulation has caused a little bit of turnover where the buy-outs and acquisitions have been more available to the airlines, like Air Virginia, and some of the others that we have seen come and go.

The pilots don't want to stay at the new airline. They don't want to be there. Consequently, it puts a strain on each management's training department and leaves you with—I don't want to say unqualified people—I want to say it leaves you with a high degree of training that is necessary to bring those people up to a level of capability so that they can pass a check ride.

Mr. MINETA. Mr. Gingrich?

Mr. GINGRICH. Let me ask a couple of questions. I was a little surprised by one or two of the things in here, and since I am not a pilot, I wanted to ask you about them.

It struck me that, in fact, when you look at the flight time/duty time issue on page 9, in some ways, if I understand your point correctly, the commuter pilots, if you measure by landing and takeoff and the stress of that activity rather than by hours in the air, the commuter pilots in fact have a more stressful job per hour than the major carriers.

Is that accurate or inaccurate?

Captain WILSON. I would say that is accurate. Additionally, a lot of the smaller commuter aircraft do not have auto-pilots in them. So, a lot of the flying is done by hand.

Mr. INHOFE. Don't have auto-pilots in there?

Captain GREEN. Most of our aircraft don't.

Captain OSWALD. I never saw an auto-pilot until I got into a jet.

Mr. GINGRICH. I guess the question I would ask—and I find it fascinating and did not realize it until this hearing that, in a sense, we have an inverse relationship between hours required, and if there were other methods of measuring stress such as, for example, so many hours or so many landings and takeoffs——

Captain GREEN. I might point out, Mr. Gingrich, the United States, if my memory serves me correctly—and Mr. Schwind might be able to keep me in line here—and France are the only two countries in the western world who do not regulate flight time based on number of approaches. The Swedish, the Germans, the British, in fact, even the Soviets, to my knowledge, do regulate their flight duty limits based on the number of landings.

Mr. GINGRICH. Could you develop that information and submit it to the committee?

Captain GREEN. Certainly.

Mr. GINGRICH. I found that particular part on page 9 very helpful.

Mr. GINGRICH. Let me ask one or two more quick things.

On page 12, you talk about 50 percent of the pilots responding to the ALPA safety survey noticed a decline in the maintenance or the airworthiness of the aircraft they were flying.

Do you know how that broke down between part 121 and part 135 carriers?

Mr. CHRISTENSEN. Boy, I sure don't, but we have the study available.

Mr. GINGRICH. Again, would you submit that for the record?

Mr. CHRISTENSEN. Absolutely.

Mr. GINGRICH. As you may know, we are involved currently in looking at two rather major carriers for maintenance problems, and that would be useful to check on it.

Mr. CHRISTENSEN. Yes.

[Mr. Christensen submitted the following:]

ENCLOSURE 2

This information is provided at the request of Congressman Gingrich on page 166, line 3985 of the testimony by the Air Line Pilots Association before the Subcommittee on Aviation, Committee on Public Works and Transportation on April 19, 1988.

The following countries either make reference to or provide credit for the number of landings within their regulations for developing maximum duty times and/or flight times.

Therefore, airlines in these countries must consider the number of landings when developing daily maximum duty time and/or flight time schedules for their pilots.

Country	Page	Paragraph or Section Number
Argentina	pg. 15	#28
Australia	pg. 20	Paragraph 5.1
Barbados	pg. 43	4.5 (2)(c)
Belgium	pg. 52	3.4.1
Bolivia	pg. 62	Chapter III, #9
Columbia	pg. 78-82	4.2.8.3
Denmark	pg. 98-99	5.2 & 6.2.1 (credit points)
Egypt	pg. 116	Chapter 7
Ethiopia	pg. 118	1.2.1
Federal Republic of Germany	pg. 135	Article 12 (6) stress
Iraq	pg. 142	2.2.2
Japan	pg. 158	Chart
Kenya	pg. 162	Consider
Malaysia	pg. 173	Consider
Kingdom of the Netherlands	pg. 185	Section 5 #1.
Norway	pg. 212	sames as Denmark
Sultan of Oman	pg. 214	Consider
Papua New Guinea	pg. 221	4. Consessions/Consider
Qatar	pg. 244	2. Consider
Sweden	pg. 269	
Switzerland	pg. 270-271	

Reference: Flight Crew Fatigue and Flight Time Limitations, International Civil Aviation Organization (ICAO) Circular, 52-AN/47/6, Sixth Edition, 1984.

Mr. GINGRICH. On page 5 where you talk about the pilot turnovers and the notion that some carriers experience a 100 percent turnover of their pilots in a year, I am not sure how to ask this question, but shouldn't we have some explicit concern about stability in the cockpit? Shouldn't that be a part of what FAA is looking at, and shouldn't that level of turnover automatically be a red flag or a signal that says you better monitor this airline?

Mr. CHRISTENSEN. The stability in the cockpit, speaking directly to relationships in the cockpit, interaction?

Mr. GINGRICH. Well, also the notion that if you have 100 percent turnover in the pilots on your airline in one year, you have an airline that has a very short institutional memory at that point.

Mr. CHRISTENSEN. Absolutely.

Mr. GINGRICH. So, I guess I am asking—and this came up earlier—it seems to me that the commuter airlines require an information systems approach where FAA can quarterly note which airlines deserve particular scrutiny and that this ought to be one of the factors in looking at that. This would be a criterion in determining where an airline ranked in terms of getting more inspections than the average.

Mr. CHRISTENSEN. Congressman, Mr. Schwind advises me that information is available.

Mr. GINGRICH. Do you know if it is routinely monitored as a management statistic by the FAA?

Mr. SCHWIND. I am not sure if pilot turnover is routinely monitored. I would certainly think it would be. In fact, I went out and reviewed a commuter airline last year that 100 percent statistical turnover in that particular year, and one of the things I was looking at was their training program.

I thought it was very poor. The pilots thought it was poor. In fact, I looked at a memo that had been sent to a pilot congratulating him for being upgraded to a captain. It said your training will start on this particular date. However, because of the shortness of the training program, you are expected to already know certain items.

Those items that the company listed were in the FAR as saying the company shall train the pilot in this, this, and this item. Yet, the memo said you are to come to class already trained in those items.

Also, on that same particular airline—we are still talking about training—I spoke to the principal operations inspector. He was not even qualified in the primary aircraft of the airline.

When I talked to him about problems with the airplanes, nonstandard equipment and other items dealing with that airplane, he came back and said I am sorry, I am not qualified in the airplane and I can't help you. And he is the principal operations inspector responsible for all operations at that airline.

Mr. GINGRICH. OK. We have to recess. Is that correct?

Mr. MINETA. We must recess right now. We have a call in the House for a vote. We will be right back.

[Recess taken.]

Mr. MINETA. Well, I have no further questions, Mr. Christensen. Does anyone else want to add something? Otherwise, we appreciate your being here.

I thought maybe Mr. Inhofe might be back to ask some questions, but the procedures on the floor right now may cause us to end up with a vote pretty soon again, so he might have decided not to come back for the time being.

So, let me thank all of you for this opportunity to have you before the Subcommittee. We appreciate all the hard work and hours you are putting in with the regional carriers.

Mr. CHRISTENSEN. Mr. Chairman, I would just like to pick up where we had left off—I don't exactly recall the line of questioning we were on, but we were talking about training, and I wanted to make a comment about the regional airlines, the commuter airlines.

Because of their pilot turnover, managements have a problem with implementing a cockpit resource management [CRM] training program. The way to implement a [CRM] program is to take a pilot, put him in a 3-day program, a CRM program, and reinforce what he learns through recurrent training.

If they don't have these pilots, they can't reinforce CRM. Consequently, rather than take the time and effort to implement the program, it gets left by the wayside when, indeed, the major airlines make this a number one priority in their training.

We, at the regional airline level, at ALPA, believe very strongly that we have to have some regulatory action towards this type of training. How to implement CRM at this level is a problem. We have a seminar next month with regard to CMR to find out where the directions go.

I also wanted to add and I don't want to take a lot of your time, but I personally have been involved in three accident investigations at three different airlines where there were no cockpit voice recorders available.

Seeking the evidence in order to come up with a justifiable reason for the accident is very difficult even with a cockpit voice recorder. For accident investigators to try to put together and assume what the cockpit crew was doing in a Metroliner or other such airplanes is extremely difficult.

Do you have anything further, Mike, that you want to add?

Captain OSWALD. If I might, sir, I have been investigating eight accidents in the last 10 years. I was on the Alpena accident that Dr. Lauber discussed.

One of our problems on that accident was the fact that we did not have a flight data recorder or a CVR to fall back on and get the data. We needed to understand why the crew proceeded into the trees as they did.

Another thing was that the NTSB and the FAA were both talking about the GPWS which is, I think, a very good thing for us to look at in the future. But even though that would be good equipment to have, a GPWS system in the aircraft, many of the regionals don't even have a radar altimeter which is used by the GPWs.

Now, in the accident in Alpena, MI, their operating manual provided information concerning the use of the radar altimeter during a precision approach. There wasn't even a radar altimeter installed in the accident aircraft.

A radar altimeter would have given that crew some indication from 2,000 feet on down that there was something hard below them

and that it wasn't the runway. I think that items like this, the GPWS, a radar altimeter, and FDR should be in our airplanes. One level of safety means just that, one level.

The passengers, the flying public, deserve that.

Mr. MINETA. Let me then ask about that interphone. Should there be one in the cockpit?

Captain OSWALD. Very much so. On the Beech 99, your decibel level is 113 decibels, I believe.

Mr. MINETA. And I am sitting right behind the curtain there. If you want to communicate with each other, you either use fingers or yell at each other.

Captain OSWALD. That is correct.

Captain WILSON. Very definitely. I used to fly Twin Otters at Metro, and that decibel level has to be equivalent if not worse than the Beech 99. I also flew the Convair 580's at Metro which is pressurized and usually quieter, but still you have the distractions, and the earphone headsets in the cockpit and the noise reduction makes it a lot easier to communicate.

Mr. MINETA. All right. Thank you very much. Mr. Schwind?

Mr. SCHWIND. I was going to add one thing to that, Congressman. It is interesting that the British certificated Shorts SD-330 and 360 aircraft require headsets. The British require them as part of their certification and they are listed on our MEL in this country. So, head sets are a requirement.

There is a way for the FAA to require various items. It is not in our regulatory basis, but carries over in the MEL, then the item becomes part of the aircraft's U.S. certification.

Mr. MINETA. All right. Thank you very much. We appreciate it.

[The prepared testimony of Mr. Christensen follows:]

STATEMENT OF CRAIG CHRISTENSEN, CHAIRMAN, REGIONAL AIRLINE COMMITTEE, AIR LINE PILOTS ASSOCIATION

Mr. Chairman, I am Mr. Craig Christensen, Chairman of the Regional Airline Committee of the Air Line Pilots Association. ALPA represents the professional interests of over 40,000 pilots who fly for 43 airlines. Twenty of which are regionals. We appreciate this opportunity to appear before you today to discuss the safety issues of the commuter airline industry. I am accompanied today by Captain Steven Green, Captain Mike Oswald, and Captain Don Wilson who are regional airline pilots and by Mr. Joe Schwind, Deputy Director of the ALPA Engineering and Air Safety Department.

It is our opinion that deregulation has had a significant impact on our industry. This impact is probably best illustrated by an enumeration of the changes that have occurred in the commuter or regional airline segment of our industry. These changes have affected safety, and we will offer some examples in this oral testimony. We have attached a paper titled "Deregulation and Safety: An Airline Pilot's Perspective," covering all aspects of the effects of deregulation upon safety.

Aviation safety has been much in the news during the last few years, but, because of all the rhetoric from various interested groups, it is difficult for the general traveling public to read beneath the headlines and make a clear assessment as to whether or not a safety problem exists in American aviation today.

The finger of blame for the problem (and we believe there is a problem) would have to point to many different groups: to understaffed ATC facilities and overworked controllers; to airline managements intent on economizing to the detriment of safety standards that have been in place for years; to regulatory agencies that seem to have walked away from their traditional role as policemen of the industry; to the federal government, itself, which, through the Deregulation Act of 1978, opened the floodgates and allowed the number of airlines to increase without regard for sound safety practices.

In fact, the focus of most of the dialogue heard concerning airline safety is misdirected. Defenders of the system point to the absence of a major catastrophe as proof that all is well. But, the frequency of recent accidents may be a good standard by which to measure the safety of the communter industry.

The American air transportation system has built up an enviable safety record over the years. This safety record is due primarily to the fact that in the past, most operators exceeded the FAA minimum safety standards, thus creating a margin of safety. The margin of safety is the difference between the minimum standards set by the FAA and the higher, self-imposed standards of the airlines that were achieved through the cooperative efforts of pilots and managements.

Unfortunately, these higher standards have been lowered due to the competitive pressures of the marketplace brought on by deregulation. This has led to a slow erosion of the safety margin that had been so painstakingly built up during the previous half century. In short, the safety net is unraveling.

Carriers do not have to break the rules to make cost-saving safety cuts. Rapid expansion within our industry has diluted the overall experience of the men and women who make decisions that affect safety. These decisions, made at all levels from the chief executive officers down, may be very well-intentioned, but they are not in the best interest of safety. Cost-conscious managers shave a little here, a tad there, while the FAA offers its technically correct but misleading assurances that most airlines are operating within legal limits.

What that means is that the big difference between legal (the FAA minimums) and safe (the self-imposed higher standards agreed upon by both the pilots and management) has been narrowing because of the Industry pressure.

Even before deregulation, this was true of the commuter industry. As early as 1974, we recognized that important differences between the major and commuter airlines existed. As a result of this concern, it is ALPA's view that there should be one level of safety in passenger transportation, and that aircraft used in scheduled commuter service should meet the airworthiness and performance standards of transport category aircraft certified under FAR Part 25.

Since that time, it has also become apparent that the operating regulations of FAR Part 121 should be applied to commuters, primarily in the areas of pilot training and Flight Time/Duty Time.

Since deregulation, many changes have occurred in the commuter airline industry. Growth has been phenomenal. Commuter airlines have taken over routes vacated by the major airlines, thereby increasing significantly their rule in air transportation. Here are just some of the generally held facts which have surfaced in the airline industry. Joint marketing agreements are now the rule, not the exception, Pilot turnover is approximately 50% per year and some carriers experience a 100% turnover of their pilots. Also, pilot experience and availability have decreased in recent years.

ALPA feels that the exposure to risk of passengers and crews has increased dramatically as airlines scurry to establish a competitive edge to keep them in the black. It would seem that passengers and crew will continue to be exposed to risk in the current state of affairs, since the FAA, mandated to carry out inspections and to enforce standards, has been stretched too thin to deal effectively with the geometrical increase in flights, planes, and airlines since 1978. Established carriers have been put on the honor system with regard to safety standards while the FAA concentrates on newer airlines or those with obvious problems. The honor of those carriers has become suspect as they jockey for advantage.

While managements struggle to maintain their competitive edge by increasing productivity demands on airframes, their operations departments struggle to fill cockpit seats. Job possibilities for pilots have soared, and current statistics indicate that we expect major, national, and regional airlines to add between 4,000 and 6,000 pilots per year to the work force during the next decade. We feel that most of that hiring will be at the regional level.

In an effort to determine if this competitiveness is affecting safety, on March 8, 1988, the FAA ordered a special inspection of the nation's commuter airlines. The inspection was scheduled to determine if the airlines were complying with the agency's safety rules and regulations. ALPA supports this inspection but warns that just looking at compliance will not uncover the deficiencies in the regulations. Commuter airlines operate under FAR Part 135, while airlines operating aircraft with more than 30 seats, such as the major airlines, must follow FAR Part 121. Adding to the potential safety problem is the fact that most commuters conduct operations under both sets of regulations. This may create problems with split-training programs and operations schedules.

There is no one problem to which we can point as the overall cause of increased exposure to risk. In evaluating this increased exposure, ALPA feels that the following areas (not listed in order of importance) all contribute: pilot training and experience including cockpit recourse management, pilot Flight Time/Duty time, aircraft certification (FAR 23 vs FAR 25), aircraft operating procedures (FAR 135 vs FAR 121), airline maintenance practices, and lack of adequate FAA surveillance.

I would like to now touch on some specifics in each of these areas.

PILOT TRAINING AND EXPERIENCE

Currently, there exists a difference in the training requirements specified in FAR 121 and FAR 135. FAR 121 requires a specific number of programmed hours of instruction in the required subjects noted in the regulations for initial pilot ground training. FAR 135 lists similar required subjects to be covered, but does not specify a minimum number of programmed hours. This basic difference may lead to a shortened or abbreviated, sometimes inadequate, pilot training program provided by the commuter airline. FAR 135 also lacks a minimum number of programmed flight training hours, whereas FAR 121 outlines a specific number of flight training hours the pilot must undergo for initial qualification.

FARs 121 and 135 both allow for the use of appropriate ground and flight simulators. However, the incentive to use these devices is found in the credit which is applied toward the entire pilot training program. The major airlines have found the simulator to be a valuable and economical tool in the overall pilot training process. Pilots can experience and respond to aircraft conditions and emergencies which are too dangerous to perform and/or practice in the actual aircraft. They also have found that the simulator reduces the training time involved and produces a more qualified pilot. The commuter airlines do not have an incentive, via the regulations, to develop and incorporate, on a broad scale, airplane simulators or advanced-training devices. Also, an advanced simulator, modeled after a commuter aircraft, can cost more than the aircraft itself. A commuter airline cannot afford to buy a simulator for training if it only has a few aircraft. Therefore, most commuter pilots complete their flight training in the actual airplane.

Flight simulators allow pilots to gain invaluable experience under a number of various, computed, often hazardous, situations. Inexperienced pilots acquire the confidence and ability necessary to deal with real life dangers should they arise. The absence of the simulator precludes the practice of certain critical emergency procedures because of the inherent risk involved in the maneuvers. Couple the training differences between the two regulations with the fact that the initial background and flight experience of the average commuter airline pilot is significantly less than that of a major carrier pilot, and one begins to see that the less experienced pilot should undergo more stringent training, and not the reverse. In an effort to fill job vacancies, airlines in general are reducing minimum hiring requirements. Because of high pilot turnover, commuters cannot or do not want to spend time and money on training. Safety is compromised because the commuter pilot does not receive quality training.

COCKPIT RECOURSE MANAGEMENT

This is the effective identification, development, direction and utilization of all resources available to the flight crew. This training includes:

A. Cockpit and cabin crew coordination;
B. Assertiveness training;
C. Problem solving;
D. Decision-making and judgement;
E. Situation awareness;
F. Stress management;
    1. Fitness to fly;
    2. Fatigue;
    3. Incapacitation; and
G. Inflight Emergencies.

The FAA's time frame of two years for regulatory requirements for cockpit recourse management may be too late for the regional airlines. The FAA through each regional airlines POI can help by indicating a commitment to CRM at the regional airline level.

PILOT FLIGHT TIME/DUTY TIME

This subject area also contains differences between FAR 121 and FAR 135, again creating two separate standards.

Part 121 permits a maximum of 30 hours of flight time per week, 100 hours of flight time per month, and up to 1,000 hours of flight time annually. Under Part 135, commuter pilots can fly a maximum of 34 hours per week, 120 hours per month, and 1,200 hours annually. Both Parts 121 and 135 allow a minimum rest period of 8 hours during a 24-hour period. Nine hours is the normal minimum rest period. This 8-hour rest period extends from release from duty on one day until reporting for duty at the next duty period. The 8-hour minimum rest period includes travel to and return from a hotel, eating meals, and other physiological needs. The actual sleep a pilot may get will be less than 8 hours. Also, when a pilot gets a minimum rest period such as this, he may be subjected to 16-hour duty days.

One problem of particular concern lies in schedule abuse. Commuter pilots, for example, may be scheduled for up to 8 hours of flying time between rest periods. Our pilots have reported that some airlines schedule a line of flying for less than 8 hours, yet, during a month of flying, the actual time flown consistently requires over 8 hours. Such schedule abuse can result in pilot fatigue, which in acute phases affects judgment and hence safety. Also, a normal day for a commuter pilot requires a high number of landings, sometimes as many as 10. These flights are conducted at low altitudes while en route, and, therefore, the pilots are constantly exposed to poor weather conditions, to a greater mix of uncontrolled aircraft, and greater congestion. One of the biggest operational concerns the regional airline pilot faces today is convective weather while enroute and within a 25 mile radius of his destination airport. In the summer of 1987, I was informed by the FAA that putting weather radar in tower facilities and approach control was scheduled in 1986 and that the new radar will be online in 2 years with intensity levels on all scopes. This program is well behind schedule. Safety is again compromised.

AIRCRAFT CERTIFICATION

A bilateral agreement exists between the FAA and most foreign governments, which allows those governments' certification and performance standards to be accepted by the FAA. ALPA would like all scheduled airlines to meet the set of performance and certification requirements of FAR 25, Transport Category Aircraft.

The FAA recently created the commuter category within FAR 23. The requirements associated with this new category are designed to enhance the performance and airworthiness requirements of FAR 23 small airplanes. ALPA feels this is a step in the right direction, but this category falls short of the FAR 25 requirements. Even though the commuter category is in place, it is not applicable to current aircraft and some manufacturers are already petitioning for exemption from these newly established requirements. Once again, we have two distinct levels of safety and the margin of safety is diminished.

ALPA strongly supports the NPRM on Flight Data Recorders and Cockpit Voice Recorders. We have long been advocates for expanding the requirement for these devices in all Part 135 aircraft.

AIRCRAFT MAINTENANCE PRACTICES

Prior to the implementation of the FAA's new MEL program on March 15, 1988, we were receiving pilot reports that inoperative equipment on the MEL was not being repaired in a timely manner. The condition of the equipment might have been a contributing factor in causing an accident. ALPA is closely monitoring the FAA's new approach and is looking forward to seeing positive results—initial reports have been good. Before the new MEL program, conditions were less than desirable. The old MEL program illustrates how a management with its eye on the bottom line can legally gut the high safety standards that once were common practice in the industry. For example, it is "legal" for a plane to have one inoperative generator, but it is not necessarily safe, depending on the weather, the time of day, and the proximity of alternate airports. Yet I always notice that company spokesmen, when defending their actions to the media, fall back on the truthful but less-than-honest claim that their operations meet legal minimums.

This condition is not confined to one or two airlines, though some abuse the system more than most. Airlines are quick to play "follow the leader" when they see a competitor gain an advantage. It is not surprising, therefore, that in a 1986 Air Line Pilots Association survey of its members, it was found that pilots throughout the industry reported an increased number of items carried on the inoperative equipment list under the MEL concept.

Fifty percent of the pilots responding to the ALPA Safety survey noticed a decline in the maintenance or the airworthiness of the aircraft they were flying.

Also, approximately 50% said that captains were sometimes pressured into accepting aircraft with an excessive number of deferred maintenance items. The same percent also said that repairs for inoperative equipment were being deferred for excessive lengths of time, even though the planes passed through maintenance bases where repairs were legally mandated to be made.

It is hoped that the FAA's new approach to MELs will help this problem.

FAA SURVEILLANCE

Surveillance of the air carrier industry has been a long-standing concern of ALPA and the National Transportation Safety Board. Since 1978, the Safety Board has conducted 15 air carrier accident investigations in which deficiencies in FAA surveillance were cited. In its 1980 special study on commuter airline safety, the Safety Board concluded that:

1. The FAA should have seen, from the ample evidence available before 1979, that the agency needed to strengthen its commuter surveillance programs.
2. The FAA has been slow to recognize that FAA inspector workloads and General Aviation District Office (GADO) staffing levels do not allow adequate surveillance of the commuter industry.

In April 1985, a group of retired FAA inspectors reviewed the February 1984 National Air Transportation Inspection (NATI) reports to evaluate the NATI findings. The inspectors noted that the FAA's Aviation Standards Field Inspector staff had decreased more that 30% between 1978 and January 1984. As a result of the decrease, one Principle Maintenance Inspector (PMI) was assigned 30 total certificates, operators, and examiner responsibilities. Fourteen of those certificates involved Part 135 operations. The report cited another instance where a large GADO airworthiness unit would have one Principle Operations Inspector (POI) and one PMI having certificate responsibility for 70 air taxi operators, including 3 commuters. This was in addition to their other assigned duties and responsibilities.

While the FAA has responded positively in many instances to numerous safety recommendations on the subject of surveillance, recent accidents are evidence that the same problems continue to exist.

The Safety Board has indicated approval of the latest efforts of the FAA to alleviate the surveillance problems of the commuter airline industry. However, these measures, in many instances, are still in their infancy and consequently will require a period of time before they produce measurable benefits. The Safety Board has stated that a minimum level of direct surveillance should be established in terms of periodic assistance visits, maintenance inspections, airplane checkrides, etc., to oversee commuter air carrier operations and that the required number of personnel to execute such a program should be identified for each Air Carrier District or General Aviation District Office having oversight responsibilities of commuter air carriers.

Additionally, guidelines should be developed and issued to provide for continued surveillance of commuter air carriers during periods when the POI is unable to perform these duties.

In summary, the areas of concern and specific items mentioned in this statement are just the tip of the iceberg. Much more needs to be done to ensure a level of safety above the FAA "minimums."

Without an adequate safety margin, any mistake may be a potential disaster.

As aviation professionals, we can do far more than merely hope that serious safety problems will somehow be magically resolved. Past experience tells us that the solution to the safety problem lies with all of us who face these problems daily, maintaining that extra measure of vigilance in detecting the problems. We must all insist that concern for safety be raised back up to the level it once enjoyed.

Thank you for the opportunity to make this presentation, Mr. Chairman. This concludes my formal testimony, and I would be happy to answer any questions you may have.

Mr. MINETA. I would like to now call forward Mr. James Casey, the Assistant General Counsel of the ATA; and Mr. Roger Fleming, Senior Vice President, Technical Services of the Air Transport Association.

Mr. Casey, we have a copy of your statement, and it will be made a part of the record. You may proceed in your own fashion.

TESTIMONY OF JAMES CASEY, ASSISTANT GENERAL COUNSEL, AIR TRANSPORT ASSOCIATION, ACCOMPANIED BY ROGER FLEMING, SENIOR VICE PRESIDENT, TECHNICAL SERVICES, AIR TRANSPORT ASSOCIATION

Mr. CASEY. Thank you, Mr. Chairman.

I appreciate that. If I may just briefly touch on a few points that we raise in our statement, but before I do, to clarify the record a little bit about the code sharing notification requirements mentioned earlier, they are part of the Department of Transportation's regulations found in section 399.88 of their economic regulations. They are the product of a rule making proceeding that DOT completed in September 1985.

It is our view that the commuter airline industry provides indispensible services to the traveling and shipping public, but it does so in a legal and regulatory framework that has two hallmarks. First, the commuter airlines are, as holders of either part 121 or part 135 operating certificates, responsible for compliance with applicable regulations and orders of the Federal Aviation Administration.

Secondly, in our view, the appropriate regulator and enforcer of the operational and maintenance performance of commuters is the Federal Aviation Administration. It possesses the regulatory and enforcement processes to provide the best means to identify and correct safety problems that may develop with commuter airline operations.

Finally, to the extent that additional oversight of commuter airline operations is needed, it is our view that the FAA should be responsible for undertaking it, and its actions should be directed at certificate holders.

I would be pleased to answer any questions.

Mr. MINETA. First of all, let me ask, Mr. Casey, is it the contention of the major carriers that when a commuter aircraft crashes that the major carrier bears no responsibility for the safety of that flight even when that aircraft is carrying the colors, the logo, and the name of a major carrier and the tickets are indicating the major carrier's flight number?

Mr. CASEY. We think it is quite clear, both from FAA regulations and DOT regulations that it is the responsibility of the commuter for the safe operation of the aircraft. That results from, first, what has been alluded to here, the section 399.88 code sharing disclosure requirements, and, secondly, the historic and well known responsibility of a certificate holder, whether they are operating under part 121 or part 135 to be responsible for its operations.

Mr. MINETA. Then let me ask when a major carrier is considering whether to enter into a marketing and code sharing arrangement with a commuter carrier, to what extent is the safety record of the commuter carrier or the reputation of that commuter a factor in the decision to enter into that kind of an arrangement?

Mr. CASEY. They are very important. In fact, if the safety record or the reputation were found wanting, they would be decisive. The major carrier would not enter into the relationship.

Mr. MINETA. If safety is a factor in the decision to enter into such an arrangement, what does the major carrier do to assure itself that the commuter is safe enough?

Your statement talks about the relationship between the FAA and the commuter industry, but it didn't shed too much light on the balance of the relationship.

Mr. CASEY. Well, first, the major carrier would assure itself and does assure itself that the potential code sharing partner possesses the necessary regulatory authority, whether that happens to be part 135 or part 121.

The second thing it looks into is what at the FAA and DOT is called compliance disposition, whether or not the commuter has been or is subject to civil penalty or other enforcement actions at the Federal Aviation Administration.

Thirdly, it would look at any National Transportation Safety Board reports that would bear on the commuter's operations.

Mr. MINETA. Once it makes those initial decisions about going into an arrangement and looking at these various factors, what do the major carriers do to, let's say, monitor it so that they are aware of the nature of the operations of that commuter carrier?

Mr. CASEY. Well, because of the nature of the code sharing relationships, they tend to stay in close communication with one another. So, there is that element of it.

Some carriers have audit programs where they come in semiannually and take a look at the operation. But I should emphasize even in those situations, they don't get into the day to day operational or maintenance matters. That remains the responsibility of the commuter.

Mr. MINETA. Has anyone ever taken a look at the AVAir situation that I mentioned earlier in terms of the relationship between American Airlines, and AVAir, and the financial situation that got them into chapter 11, their coming out of chapter 11, going back into operations, and the subsequent accident that occurred?

Mr. CASEY. I am unfamiliar with that.

Mr. MINETA. I am, too, but it just seems at least sort of what you might call a textbook example of what might be looked at as where the major carrier is falling short, where the commuter is falling short, where the FAA is falling short. From our perspective, what should I be looking at in that whole sequence of things to make sure that things like that don't happen?

Mr. CASEY. Well, I think in any accident, that is the kind of question you have to confront, what are the particulars that require attention and, if necessary, any further regulatory action.

I am afraid I am just not familiar with the situation, so I can't give you any suggestions along that line.

Mr. MINETA. Do you know of any situations where the major carrier will impose safety standards on a commuter carrier beyond what the FAA may require?

Mr. FLEMING. Mr. Mineta, before we move on to the question you just asked, I wanted to offer a thought on the previous question, and that is that the common thread, of course, is the operating certificate. It presumably survived the bankruptcy proceeding. Otherwise, the carrier would not have been able to recommence operations.

I think both Mr. Lauber and——

Mr. MINETA. Well, even that is sort of open to question, though, is it not? Because when I asked Mr. Broderick if they had taken a look at that, they said no, they really hadn't.

Mr. FLEMING. Well, that was the very point I was going to make. Mr. Lauber suggested criteria in the FAA documentation that FAA would apply to major carriers as potential symptoms of distress, and Mr. Broderick, as I recall, did not have immediately at hand the information you sought and volunteered, I think, to advise you further.

Mr. MINETA. For the record, yes.

Mr. FLEMING. It seems to me that is the appropriate trail that you would want to look into, and this may well provide a useful case example, if you will, of the kinds of problems that are of potential concern.

Mr. MINETA. Mr. Casey.

Mr. CASEY. In response to the subsequent question, there are several major carriers that in their agreements with commuter airlines have additional requirements. They tend to be quite specific. They don't have overall operational or maintenance requirements.

Mr. MINETA. And, yet recognizing it may be independent contractor status, I guess, in most instances, the major carriers have a lot to lose if they are hooked up with a commuter that is having a rash of problems. If I were that major carrier and you were the commuter, where could I step in and say, Mr. Casey, Casey Airlines is having some real problems. Now, I would like to have you make some improvements.

They may be reflected by the fact that every time you go to start up your plane, you have to jump start the thing or whatever. I am going to look to you and ask what you are doing to clean it up.

Are you going to tell me as the major carrier to go fly a kite? Or are you going to say, well, why don't you send some of your maintenance people to help my maintenance people do the work or whatever.

Mr. CASEY. I think I would listen awfully carefully if you came to me and said that, because I think implicit in that would be the possibility that you would terminate the code sharing agreement. Because I found that such a useful and beneficial arrangement, I would take a good deal of attention to that kind of conversation.

Now, whether or not it is useful to have the maintenance people from the major carrier come to the regional is a different question. There is not that kind of commonality in equipment.

Mr. MINETA. To what extent are the safety and accident liability issues addressed in the contracts between the major carriers and the commuters with which they are entering those marketing arrangements?

Mr. CASEY. The agreements typically state that the commuter is responsible, first, for holding the appropriate certificate authority; secondly, for abiding by all existing FAR requirements and subsequent ones.

On some occasions, the requirement is also to notify the major carrier of violations found by the FAA.

Mr. MINETA. Any hold harmless clauses in there in terms of liability?

Mr. CASEY. There often are hold harmless clauses for indemnification.

Mr. MINETA. Has a major airline ever been sued by the victims of a commuter accident with which it had a marketing arrangement?

Mr. CASEY. Yes; there are two instance that I know of where that has occurred. One of them went to trial and resulted in a judgment 11 years ago in the State of Alaska.

It was a peculiar case, because it was a subcontracting arrangement, a bush route in Alaska. There were specific requirements in the Civil Aeronautics Board's rules that held the bush airline to be an agent of the major airline. So, as a legal matter, that is different from what we have today.

That is the only one where there has been a judgment that we know of, and we can supply that case for the record if you would like it.

Mr. MINETA. Do you know of other ones where at least suit has been filed?

Mr. CASEY. There is one other, and that grew out of the Fischer Brothers Aviation accident at Detroit on March 4, 1987. That was the Northwest Airlink.

Mr. MINETA. Is that still pending?

Mr. CASEY. Yes.

Mr. MINETA. Has a major airline ever settled with the victims of a commuter accident?

Mr. CASEY. Not to our knowledge. As I said, the Alaska case ended up in a judgment against the carrier.

Mr. MINETA. Do the major carriers think there is a problem with the relatively low level of experience and high turnover of commuter pilots, and is there anything the majors could do to improve that situation?

Mr. FLEMING. Mr. Mineta, we don't think there is a safety problem because of the high turnover, but there very clearly is a training burden that has been imposed upon the smaller carriers that we have heard a great deal about today. There are some imaginative approaches being investigated by some major carriers to try to reduce that burden. You yourself mentioned one a short while ago—the arrangement Pan Am has with its Pan Am Express partner.

There are others, for example, that involve alignments with academic institutions such as that involving the Northwest Aerospace Training Company. I believe both Continental and Eastern, to cite other examples, have gotten involved in entry-level pilot programs with academic institutions.

So, there are some very interesting and potentially helpful developments that are coming in that arena, and I am encouraged by those. I am also encouraged by the progress that the Regional Airline Association has made in working with the FAA on the application of advanced training devices, because based on our experience with the major airlines, we see simulation and application of those kinds of devices as being some of the most important aids to improving the quality of training that is provided to line pilots, whether they be pilots flying for major airlines or pilots flying for small commuters.

So, our focus here should be on the need for effective training programs to ensure that there is no diminution in safety because of pilot turnover.

Mr. MINETA. Does the ATA think that the commuter industry safety level is satisfactory?

Mr. FLEMING. Neither the commuter industry's safety level is satisfactory, nor is ours, because we still are having small numbers of accidents. So, in that sense, the answer clearly is no.

There always are areas for improvement. I have appeared before this subcommittee many times when we have talked about other areas within the major airlines that need improvement, and I have no reservation stating it is clear that there are improvements that need to be made. I think we would all agree with that, and I think we heard about many of them today.

The one that we would identify first and foremost would have to do with FAA's regulations regarding training and qualification of airmen flying for part 135 operators. As you have already heard, in response to Administrator McArtor's Impact 88 initiative, there has been an industry task force that is in the process of developing recommended changes to those regulations.

I would expect that task force document will be transmitted to the Administrator within several weeks, and I would expect that the FAA would move promptly with regulatory amendments to part 135.

Mr. MINETA. Thank you.

Mr. Gingrich?

Mr. GINGRICH. I just have a couple brief questions, and I apologize if the chairman has already covered part of this with you. I was trapped on the floor of the House.

When we have code sharing, in your judgment, to what extent should a consumer who is purchasing the ticket believe that the airline whose name they are purchasing represents the minimum standard of the flight they are taking?

Mr. CASEY. I don't quite understand the question, Mr. Gingrich.

Mr. GINGRICH. You pick up a ticket, and it says Airline X flight 2229. Now, if you are sophisticated, you know that 2229 means it is not, in fact, the major airline.

Mr. CASEY. Oh, I see your point.

Mr. GINGRICH. Or may not be.

Mr. MINETA. I was going to say that is no longer the case. It could very well be the major carrier's flight numbers, because I notice now that there are some. For instance, Delta numbers—the Western Airline flights integrated now as part of the total schedule are now four digit numbers, and it has nothing to do with a small commuter type aircraft or——

Mr. GINGRICH. OK, I apologize for my ignorance.

Mr. MINETA. I used to think, "aha, a four-digit number, a commuter," but that is no longer the case.

Mr. GINGRICH. I guess what I am asking is, if you see an airline's name associated with a flight on the ticket you are carrying, shouldn't you then have reason to believe that there is a minimum standard you have come to associate with that airline which will be part of that process?

Mr. CASEY. Well, in the first instance, when you have a contact with the airline, under the Department of Transportation's——

Mr. GINGRICH. Well, let me stop you a second. What percent of all flights are now booked by sources other than contacting the airline?

Mr. CASEY. Perhaps 75 percent.

Mr. GINGRICH. OK. So, in the one out of four occasions when you might have contact with the airline if you made the call yourself——

Mr. CASEY. You would get that notice. But when you went to your travel agent, the travel agent would punch up his or her CRS screen and find an asterisk indicating that it was a commuter connection and, presumably, would advise you of that. On the basis of that, you could make your judgment as to whether you wanted to book on that flight.

Mr. FLEMING. OAG stars that.

Mr. CASEY. The OAG stars that, and the CRS systems have to star it also.

Mr. GINGRICH. I may not understand the rationale. What was the rationale behind the evolution of code sharing?

Mr. CASEY. Marketing more than anything else.

Mr. GINGRICH. Marketing in what sense?

Mr. CASEY. That it would provide benefit both to the major carrier and the commuter carrier, advertising, offering services to the public in a coordinated fashion.

Now, the amount of coordination has varied and continues to vary, but the ultimate rationale was marketing.

Mr. GINGRICH. I know I am in a very sensitive area, and I know it affects some major carriers, including those that have considerable interest in my district, but the fact is that to the degree that it is a good marketing gimmick when it works, it is a dangerous marketing gimmick when it doesn't work, and I think the major carriers have to confront that.

Perhaps 99.99 percent of the time, it is a good device, a useful device. But I do think from the average person's standpoint, there is an inherent sense of association which is in fact part of the marketing advantage which then becomes a potential liability. I would feel very inadequate in my job as a Representative to not force that issue today in terms of at least laying it on the table in the record as often as seemed appropriate.

Second, with deregulation—a point I have tried to make on numerous occasions with the chairman's indulgence—the more we economically deregulate, the stronger the government must be in ensuring safety. There is an inverse relationship there. The country will not tolerate economic deregulation leading thereby to safety deregulation, and every poll I have seen says that very strongly.

Mr. CASEY. And we agree with it also. The system simply cannot function, a deregulated system just as a regulated system, is not going to be able to function in an environment where there is not confidence in safety.

Mr. GINGRICH. In that setting, I guess, I have just one question and one comment.

My question is, Do you think that our standard should be—and I recognize statistically that this is not a function of per passenger mile because of the difference in the style of operations—but that, in general, per number of landings and takeoffs, et cetera, that a person buying an airline ticket on a commuter airline should have the same general expectation of safety as they have buying it on a major airline and that the government standard should be to set that general standard of safety?

Mr. CASEY. I think the answer is yes and that the Government's responsibility in its regulatory process, to the extent possible, ought to move in the direction of identifying shortcomings and remedying them.

Mr. GINGRICH. Then, my comment is it would be very helpful—and I don't know that it does require any legal changes—but to whatever degree in order for the major carriers to make available on a pooled or other kind of basis to the commuters their training facilities, their capacity for much more systematic pilot development, et cetera.

I think that you ought to really look at that at the ATA level and come back, if necessary, and say these rules need to be changed or this law needs to be changed. I don't know, for example, if there would be an antitrust problem.

We really ought to be optimizing the ease with which any carrier that is small and relatively weak financially has access to the best possible training and analysis for both its maintenance and for its pilot activities. There may be a role that, as an organization, ATA could play in helping us develop and upgrade the commuter capabilities, particularly in a time of considerable turbulence in terms of pilot crossover and, particularly since in many ways, the commuters have now become the farm system of the majors.

I don't know if you want to comment or not, but I just throw that out as a direction for you to think about.

Mr. FLEMING. I would be happy to, Mr. Gingrich. As a matter of fact, you may be familiar with a document that we have employed at ATA to focus our efforts on most important safety objectives. We call it the ATA Safety Agenda.

We have had an item to that effect. With respect to training, obviously—I just got through focusing on the same issue—the difficulty we may have is that, of course, our assets are all geared to the airplanes we fly which are a different set of airplanes than the airplanes they fly.

So, the very capital intensive investment they need to make is the one we can't help them with because we have the wrong set of equipment.

Now, in terms of how to use that device, even though we may not own the specific one they need, our airlines can help. We work very closely with the Regional Airline Association. That is not a large organization. They have limited assets to work with, and we are trying to cooperate with them in focusing attention on the most productive ways to train airmen.

As you made that point, it occurred to me that one area where I think the FAA and NASA, leading human factors experts, the major airlines and the regionals might be able to do some very con-

structive additional work is in the area of crew resource management training, which we just heard about from the ALPA group.

That is not an easy thing to introduce. They made the point that instability and turmoil in the smaller companies' work force in fact makes that a difficult thing to do. There may be a productive area that we could do some helpful work in on that issue.

Mr. GINGRICH. I would just like to suggest in closing on my part that I think here is an area where because the safety of the public is so clearly a paramount issue, the large airlines working through their association, working collectively with the small airlines and with the FAA may be able to develop a service which enhances the sophistication of smaller institutions and improves safety in a collective way that is pretty much outside the normal American pattern but that, in fact, would be a very good thing for us to look at.

If we stay in a deregulated environment, I think we are going to continue to see lots of small airlines remain the stepping stone to the big airlines for pilots, and they are going to make, I suspect, a peculiarly high percentage of landings and takeoffs which are the most dangerous part of flying.

So, you could play a real role there, and, to some extent, I think begin to establish the right kind of non-adversarial relationship with the government in trying to jointly solve a real problem.

I thank you for your testimony.

Mr. CASEY. You are welcome, sir.

Mr. GINGRICH. Thank you, Mr. Chairman.

Mr. MINETA. Mr. Inhofe.

Mr. INHOFE. Thank you, Mr. Chairman.

I had some questions I was going to pursue with the last group that was here but, unfortunately, we were interrupted by a vote, and I didn't get a chance to do it, so I am going to try to come in the back door with this group.

The most distressing part of the testimony by the ALPA group, I felt, was in reference to a survey that took place in 1986 wherein 50 percent, they claimed, of the pilots who had responded stated that there were maintenance problems that they were aware of. And 50 percent of those were pressured by the airlines, commuters or otherwise, to go ahead and fly airplanes on which they had actually had some squawks.

I wanted to pursue that a little bit. Mr. Gingrich did ask what percentage of those would have been the part 135 and part 121, and they didn't have an answer but implied that both would have been involved in this area.

Do you have knowledge of this type of pressure—without being able to define to you what kind of pressure they were referring to because I didn't get a chance to ask them—that is being applied that would force these pilots to fly aircraft that, in their opinion, were of a maintenance level that wasn't adequate and they didn't feel comfortable flying?

Mr. FLEMING. Mr. Inhofe, I can't give you an acceptable answer to your question for several reasons. Number one, ALPA conducted the survey and not ourselves. Number two, I don't know very much about the part 135 airline community.

I read the ALPA questions and the summarized results. They were published in the ALPA magazine. I frankly thought, to be

honest about it, that the questions were biased the way they were asked to produce the desired result, but that is one man's point of view which comes as no surprise to Mr. Mineta.

I refuse to accept the generalization that pilots are pressured. The pilot in command has the authority to reject the aircraft. In fact, he is responsible for doing so if, in his judgment, it is unsafe to fly.

With your experience as a general aviation pilot, you know that you have the same authority under part 91, the general operating rules.

It is not necessary to fix every squawk on every aircraft for every flight, as you well know from your experience, too. There is room for interpretation about the application, for example, of the minimum equipment list with respect to which items may be inoperative for a specific flight, and some of those disputes that may have arisen between individual pilots and their companies may have concerned the proper interpretation of a minimum equipment list item.

In some cases—in most cases with airlines—it is the maintenance and engineering organization which is responsible for producing an airworthy airplane for use by the flight crew. Mind you, the captain still has the right to reject the airplane, but it is the maintenance department's responsibility and, specifically, the engineering department may have reached a determination that the airplane is acceptable for flight, perhaps with certain specific limitations, until a particular defect can be remedied.

I just don't think that you can legitimately generalize from some isolated incidents some conclusion of that sort.

Mr. INHOFE. Well, I am pursuing this with the wrong person, Mr. Fleming. I didn't expect that you would have the answer, and I was going to pursue it with them, because I think it is a very dangerous thing to come out and give the results of a poll, have the media broadcast this around the country and give the impression that these pilots—well, for one thing, if it is expressed this way, and I expect in the media it would not be expressed with as much technical detail as it should—that it would give the impression that the pilot does not have the responsibility.

The point I was going to try to make to them is that they are responsible, and it wouldn't make any difference what company policy is. They are responsible for making that decision.

To me, the pressure idea didn't make sense. And I think it is a very dangerous thing, and I regret that the circumstances were such I didn't have a chance to pursue it.

I guess I will just leave this subject with the question: do you have any knowledge of any of the members of your association applying pressure to pilots to fly equipment that they don't feel comfortable flying?

Mr. FLEMING. I do not. However, I would immediately concede that there have been instances, undoubtedly, where a captain said I will not accept this airplane for this flight because, and he has then been subject to questioning for his rationale by his chief pilot, and he may not have been happy as a result of having his judgment questioned.

However, that still leaves open the question, did the pilot accept the airplane or did he not? If he accepted it, he must have deemed it acceptable for flight.

Earlier, when the ALPA group was here, the case of an inoperative generator was mentioned. In many cases, it might be perfectly acceptable for a pilot in command to decide to take the airplane for a visual flight rules condition flight—in visual meteorological conditions—with one generator.

Mr. INHOFE. A short flight and if it is the secondary generator or alternate.

Mr. FLEMING. Yes, airline airplanes will always have one or probably two or more additional sources of electrical power.

However, if he refused to take the airplane for a flight into a busy airport under low weather conditions, there would be no reason whatsoever why his judgment should be questioned in that case.

Mr. INHOFE. I understand that, and I agree with that.

A lot of times, I like to stress what bothers me about the public being subjected to little bits and pieces of what are sometimes scare tactics to accomplish some other purpose, whether they are misquoting statistics as to the relative safety of flying as opposed to other modes of transportation or whether they are quoting parts of a survey that makes people believe that half the pilots in America are flying dangerous equipment.

I think it is a very dangerous thing to allow to be floating around out there.

Mr. FLEMING. Well, I would share your concern, sir.

Mr. INHOFE. I didn't have any other questions, Mr. Chairman.

Mr. MINETA. All right. Thank you very much, Mr. Casey and Mr. Fleming. We appreciate your being here with us.

Mr. CASEY. Thank you.

Mr. MINETA. Excuse me, Mr. Casey.

Mr. CASEY. Yes, sir?

Mr. MINETA. I wonder if I could ask you to supply the Subcommittee some further information on the extent of the involvement of the major carriers in the safety operations of their commuter partners, because my impression is that there is a wide range of practices within the industry. I would like to ask you if you could maybe survey your members as to what is happening in this area. Perhaps you could be in touch with our staff and work out whatever the specifics might be.

Mr. CASEY. Certainly.

Mr. MINETA. I don't want it to be burdensome, but I think you would be the best resource to help us on that.

Mr. CASEY. We would be happy to try that.

Mr. MINETA. Thank you.

[The prepared testimony of Mr. Casey follows:]

STATEMENT OF THE AIR TRANSPORT ASSOCIATION OF AMERICA CONCERNING COMMUTER AIRLINE SAFETY

Good morning. My name is James Casey. I am Assistant General Counsel of the Air Transport Association of America. Accompanying me is Roger Fleming, who is ATA's Senior Vice President for Technical Services.

We appreciate the opportunity to offer the Subcommittee the views of ATA about commuter airline safety. Many commuter airlines have code-sharing arrangements

with ATA member airlines. These smaller operators provide the public with important air transportation services. They do so in the context of a federal regulatory structure that assigns the operator the responsibility of providing safe air transportation. The appropriate regulator and enforcer of the safety performance of commuter airlines therefore is the Federal Aviation Administration. It possesses the statutory mandate and consequent expertise to perform that role.

Commuter airlines provide indispensable services to the traveling and shipping public. They link smaller communities to the national air transportation system. Commuters in performing that important role provide those communities with efficient and frequent service.

Such service benefits not only the traveling and shipping public, but also the commuter airline and the major or national airline with which it has a relationship. The public is advantaged because of the integration of the schedules of the commuter and the larger airline. It also benefits from the stability that the relationship between a commuter and a larger airline typically creates. The commuter also profits from that stability, and has the opportunity to obtain important marketing and financial advantages from the relationship. The larger airline benefits from the passenger feed that such arrangements generate and the freedom to operate its larger aircraft on routes that can more economically support their service.

Experience thus demonstrates that commuter-large airline arrangements very efficiently tie modest-size communities to airline service throughout our nation.

Commuter airlines perform their services in an environment in which their operational and maintenance functions are subject to FAA standards and oversight. The responsibility of the FAA is critically important because its involvement means that an agency of the Federal Government is regulating the safety of commuter airlines.

Commuter airlines are, as holders of either Part 121 or 135 certificates, or both, responsible for compliance with applicable FAA regulations and orders. They are held to comprehensive compliance standards, as are other certificate holders. In the event that compliance with operations and maintenance regulations becomes an issue, FAA enforcement authority—including the recently enhanced civil penalty provision of section 901 of the Federal Aviation Act—applies with full force to commuter airlines.

FAA regulatory and enforcement processes provide the best means to identify and correct safety problems associated with commuter airline operations. Those processes involve the FAA exercising authority that Congress has assigned to it and for which it has the necessary expertise. Moreover, its performance of those functions assures that safety standards are uniformly applicable throughout the industry.

Both the public and the airline industry rely upon the FAA's regulatory and enforcement roles. It is the FAA's performance of those roles that makes passengers confident that travel on a commuter airline is safe. In addition, before entering into a code-sharing agreement, the larger airline assures itself that the commuter airline holds appropriate operating authority.

In response to one of FAA Administrator McArtor's "Impact 88" initiatives, the Joint Government/Industry Task Force on Flight Crew Performance will soon recommend to Administrator McArtor that pilots of Part 135 airplanes, of the type frequently used in code-sharing agreements, should satisfy the same training and checking requirements as Part 121 pilots. This recommendation offers the prospect of considerably enhanced training for Part 135 pilots. The Regional Airline Association has endorsed this proposal. We are confident that FAA will promptly undertake needed rulemaking action.

In addition to the FAA, the Department of Transportation regulates certain aspects of commuter airline operations. Part 298 of DOT's Economic Regulations imposes registration requirements on commuter airlines. Moreover, part 205 of those regulations requires them to obtain and maintain liability insurance.

As this statement indicates, the FAA and DOT are, because of their statutory responsibilities and their well-developed expertise, the appropriate regulators and enforcers of the safety performance of commuter airlines. Commuter airline safety oversight is not a role that is appropriate for a commuter airline's larger, code-sharing partner. Such a role would duplicate the responsibilities that Congress has mandated the FAA to perform. To the extent that concerns about commuter airline safety prompt the belief that further action is necessary, the FAA has the statutory authority and the wherewithal to determine what action is needed and to undertake that action.

Thank you for providing us with the opportunity to express our views to you.

Mr. MINETA. Now, I would like to call upon Prof. William B. Rourke, Jr., Department of Aerospace Science, Metropolitan State College in Denver, CO.

Professor Rourke, it is nice to have you here. I was with the Aviation Technical Education Council last Saturday night when they had their convention in San Jose and had a chance to be with a number of people who are involved in aviation technical education.

So, it is a pleasure to have you here.

Mr. ROURKE. Thank you, Mr. Chairman.

Mr. MINETA. Your statement will be made a part of the record, and you may go ahead and proceed in your own fashion.

Mr. ROURKE. Yes, sir. I admire your stamina, and your interest is unquestioned.

Mr. MINETA. I admire your patience.

Mr. ROURKE. I won't test your patience.

TESTIMONY OF WILLIAM B. ROURKE, JR., DEPARTMENT OF AEROSPACE SCIENCE, METROPOLITAN STATE COLLEGE, DENVER, CO

Mr. ROURKE. Mr. Chairman, as I indicated, I am concerned, both as a professor and instructor of these young people that are going into aviation and ultimately will become our commuter airline pilots and, hence, the major national air carrier pilots as well.

I am also concerned simply from the point of view of being one man who sits in the back end of the airplane. I did meet one of my former students, Gil, on the way here. He is a United Airlines flight engineer in Chicago.

It is nice to be able to see a student who is doing well and to know, when you sit in the back end, that there is a competent driver in the front end. I am a little bit worried about the time when I get on an airplane and find one of the people and think maybe I will get off again.

I think it is important to note, as I have indicated on page 1 there, that when the Viet Nam War ended, military input of student pilots decreased to less than half of what it had been throughout the decade of the 1960's. The military training has traditionally been superb and almost the exclusive source of airline pilots.

One factor, then, that impacts on the commercial airline industry today, including the commuter end of it, is the fact that the military pilot is no longer available in the same numbers today as he had been.

I think this is indicated by a number of instances that I am aware of. My son, a Navy pilot, had training that was very valued and has since been absorbed into one of the commercial airlines.

I know of one Air Force pilot who flew KC–10's who, at 50 years of age, was taken on as an airline pilot, acknowledging that he would only have 10 years of service at the outset because of the mandatory retirement at age 60.

I think that shows how valued the military training has been in the past, but it is no longer available in those numbers.

At the same time, because of the very extraordinary effectiveness of airline deregulation in making air travel available to a larger

number of people, we have absolutely increased the numbers of pilots that are required in the commercial airline industry. We also have increased the number of pilots required by creating an entirely new level, the commuter airline end of the industry, and, of course, our population growth and economy allow more people to travel.

It is important to note, I think, what is the progression of employment of a pilot from the time he first learns and gets his private pilot certificate. From a student pilot with his commercial certificate, he almost immediately becomes a flight instructor, and I shudder to think what it would be like if, in a medical school, we had an immediate medical school graduate become the faculty of a teaching institution for medicine.

That is precisely what we have in the aviation industry.

I would ask you to note how soon and at what low levels of experience a new pilot is thrust into a position of significant responsibility.

Also, let's look at what the incentives are for this young man or woman to become a certified flight instructor. He needs somebody else to pay for his flying time at $35 to $45 and, occasionally, $50 an hour. That is a substantive investment.

If I can get you as a student to pay for my flying time, that is a quick, easy, and very successful way to build time to the hiring stage.

It is interesting to note also that this pilot, exiting a 4-year college such as I come from, will have approximately 300 or 350 hours of flying time. Mr. Lauber this morning could have verified that a pilot with from 100 to 600 hours of flying time is the most dangerous animal to strap on an airplane, and he now becomes a CFI.

When he does build time to about 750 hours, he now is eligible for a commuter airline position. The competition as a CFI was incredibly intense. Likewise, the competition and the demands laid on a commuter airline pilot are equally as intense.

It is quite simply laid onto him that if you don't wish to fly into that airport at "company minimums," we have at least 10 other applicants here who are perfectly willing to do it.

The question had been raised earlier about some survey that showed the pilots took aircraft that were not mechanically 100 percent. I agree with you, sir, that the attempt to get headlines and publicize something like this is a poor way, indeed, to go about improving a situation. I think quiet testimony taken by committees such as yours, and then if legislation is required going about doing it, will help a great deal, and get out of the newspapers.

I do also agree—this morning there was considerable discussion—about the numbers of flying hours used as a basis for declaring or finding a degree of competence.

I think one can find numerous examples of what we call Remington Rand entries in the log book. I know I tell my students to presume, if you will, that I am chief pilot, and you enter my office for an employment interview. You have 4,000 hours in your log book and you are 16 years old.

I am going to be very polite to you, and then as you walk out of the office, I will take your employment application and drop it in

the wastebasket. You are simply destroying your credibility which is probably the biggest talent that you have. Don't do it.

But I think you can see the enthusiasm and the desire to get into that 747 at $100,000 a year is going to create a great deal of pressure on some people to pad that log book. The point is, I don't think flying hours truly indicate competence in any elemental degree.

The commuter pilot when he enters initially has had, then, an experience level limited to basic instrument maneuvers. That is about it. He may indeed have no more experience than flying around Larimer County and going out to some of the out-reaching areas and then back into Denver again.

Incidental to this discussion—and I would like to bring it in—is the fact that women are increasing their presence in the aviation industry at an astonishing pace. This does not set too well with some of the more egotistical males in the pilot community, and I would indicate, and I think you will agree with me, that all pilots have a more than normal degree of ego.

Nonetheless, by the year 2000, it may simply be necessary for us to simply rename the front end of the airplane.

The experience of pilots—is it detrimental in the commuter industry? I use 1985 as an example where 21 accidents involving commuter airlines in 1985 and 22 for that same year involving what we call large commercial air carriers.

The total accident rate was nearly five times greater in the commuter industry, and the fatal accident rate, likewise, was nearly five times greater in the commuter industry than in the large commercial air carriers.

Mr. Gingrich asked the question—and I think I have addressed it there on page 3 in the third paragraph at the bottom as a passenger coming from Alamosa, Colorado and going to Hawaii. Should he accept a five times greater risk factor in flying from Alamosa to Denver on a single ticket than he would in going on the major carrier from Denver to Honolulu?

I have indicated there a list of causal factors, and it was interesting to go down that list and indicate how many of them are pilot influenced or factors involving the pilot and how many are mechanical. It is approximately 8 and 4 out of the 16 listed, 8 pilot or human error problems and 4 that are mechanical.

I bring that up, because I would like to address two issues that have been talked about again today, the cockpit voice recorder. I did my first aircraft accident investigation in March 1959. I think the cockpit voice recorder is of unquestioned validity and need and aid as an aircraft accident investigator.

However, in terms of safety for the commuter airlines, it does nothing to prevent accidents in any direct sense. Yes, it might tell us a little bit closer what the problem was, and, subsequently, we can perhaps train to improve, but in a direct sense, it does nothing.

Next, look at the ground proximity warning system. I participated in that study of 20 years of mishaps wherein we determined that there were six different modes for what is called controlled flight into terrain resulting in the ground proximity warning system.

It is true that there is a before the fact piece of equipment, but it is only before the fact in terms of announcing and getting your adrenalin flowing for what could be an instantaneous impact. Again, it does nothing to improve the pilot's functioning so that he does not get into a situation where he is going to imminently impact terrain.

When the pilot is cited, as he was in 1985, in 18 out of the 21 commuter mishaps as a cause factor and as a combination of a cause factor or a contributing factor in 20 of the 21 accidents, then I think we know where the problem lies, and that is in the training of the pilot.

A recent survey in the Rocky Mountain News brought out a couple of factors, and this was because of our Trans-Colorado crash at Durango in January. Yes, we do have more crashes in Colorado than in the comparative States, Oregon, Wyoming, Montana, and Nebraska.

The point was made that we simply have the largest of the national air system airports at Stapleton. The point was also made, however, that we have eminently threatening mountainous terrain and weather which is impacted by that same mountainous terrain.

Parenthetically, let me note here if you take a flight from Denver to Durango, as you pass by Pueblo, you are calling for weather to see what it is like to go over Lavita Pass. You are talking with a man who is located in Denver, Colorado.

It is true that Pueblo does have a weather observing station there, but they cannot see the lee side of Lavita Pass. After you cross Lavita Pass, you get over Alamosa, and you are talking again to Denver, but now Denver does have the advantage of having a weather input from Alamosa, but that observer cannot see Lavita Pass or Chamita Pass to the west.

After you cross Chamita Pass, you now talk with Albuquerque, NM to get weather on the windward side of Wolf Creek or Chamita Pass. Again, the observer, the next in line, is in Durango, and he cannot see that windward side of the pass.

These are all efforts that have been part of the FAA to cut down on the flight service station personnel and operating expenses as a result of the demand and the growing demand in air traffic control. In general, take the risk factor involved in flying in mountainous terrain with weather, and you have the lowest flight time or, if you will, the lowest experienced pilots flying in the highest risk environment, and they are making more landings and takeoffs in a working day than his larger major air carrier counterpart.

This gives rise to another observation that was made. Perhaps the 30 hours a month and FAA requirements for the major air carriers as compared to the commuters ought to be inverted. At a minimum, they ought to be made the same.

That gets me to the major point. The FAA used to monitor all written examinations for pilot certification. They no longer do.

I think it takes little imagination to understand that when somebody is up for a written examination and he is going through a flying school and he has been guaranteed that he is going to be put through, your instruction now diminishes down to a point where you are teaching to the test, and I think most pilots will verify that that is the case.

Similarly, the FAA used to do all flight checks. When I got my certificates, it was done by an FAA employee who went back to Oklahoma City each year to make sure that his checking was standardized.

That no longer is true. Again, based upon economic reality, if the hard nose goes out and gives somebody a down, you can bet the word gets around, and he is not called to be a check pilot again. The Santa Claus is the one who makes the more money and is called on more frequently.

Training is not only essential, as we all will recognize, but it also is expensive, as we all will recognize. For a commuter airline to use its revenue airplanes for training purposes, I think everybody recognizes is counterproductive and will not be done.

So, simulators, then, become a necessity. However, the commuter airlines, generally speaking, do not have the money to put into very costly simulators.

Now, can we go out to corporations like Flight Safety International that do superb jobs in training people? Of course, we can, but, again, the problem is cost. Can or will the commuters do that? They can and they will when it is mandated, and I don't think they can or will until it is mandated.

I do have a suggestion as I listened to some of the testimony throughout the day. I recall during World War II that the government invested in production facilities, for instance, the San Diego plant of Convair, a U.S. Government facility.

Perhaps the Government could invest in simulators and put them at the colleges that do have aviation programs and, similarly, cockpit resources management training. I am going to go home today and recommend that we establish a course in our program for CRM for these young people going into the commercial airline business.

Perhaps the Government could purchase those, install them, put up the capital portion of them, and then let the schools operate them, charging for the use of them and do that kind of training for the people going in.

Last, let me suggest that airplanes might be chosen with some consideration given to the environment within which they fly. Again, this would have to be, I think, a regulatory mandate.

For instance, crossing the mountains of Colorado to go from Denver, the major air carrier stop, to the major ski areas involves crossing enroutes that have a minimum enroute altitude of some 16,000 feet. In this particular book of business and commercial aviation, there is one section in here on page 124 that lists some 30 airplanes that they suggest as being available in what is called a planning and purchasing handbook for commuter airline use.

Of those 30 aircraft recommended, only six of them have a single engine service ceiling. That is, if one engine should fail, only six of them can continue to operate and get across those mountains.

There are 3 of them in that listing that could not even make it to the altitude of the pattern for entry into landing at Stapleton Airport, much less get across the mountains.

Again, if there were no airplanes available that could cross the mountains with a single engine out, I would not say much about it. However, there are airplanes available. Aspen Airways is a classic

example and case in point. They operate the BAe-146 and the Convair 580, new and old. Both of them have operating characteristics that will permit single engine operation across the mountains, a safety factor for the public.

I have some suggestions to make, then, as written there. One, return an element of quality control in the entire piloting community to the FAA which it was properly and, I think, significantly charged to do back in 1938 with the old Civil Aeronautics Act.

Put the FAA monitoring and supervising all written examinations in FAA offices. That will preclude teaching to the test.

FAA employees should do all flight checks for all certifications and ratings rather than the designated examiner which is not working.

Have the FAA do periodic checks on classroom instruction to make sure that the syllabus that was approved originally by the FAA is, in fact, what is being taught. This also would give an opportunity for the FAA to say in a 141 school that we need to have cockpit resources management training.

That would probably require removing the air traffic control function from the FAA. It has become a pool, a sink hole, of money for the FAA, requiring them, in order to support the additional personnel and equipment, to take from virtually every other phase of the FAA.

I cite, for example, Gary Koch whom I think is still here in Washington as the safety specialist. I called him the ricochet rabbit of the Rocky Mountains because he was covering seven States as the sole single specialty and safety officer in the Rocky Mountain Region.

We can't really effectively address safety with that kind of lack of personnel.

Additionally, number four, the FAA should monitor flight operations. I have heard ALPA people and NTSB people both in their testimony today emphasize that, and, I think, indeed, it is a deficiency of the FAA today. It is a role that they and they alone can play and the government properly should play.

I support the idea of the inspector general's telephone hotline in the FAA to give people an opportunity to call in discrepancies they know to exist and for some FAA examiner to follow up on.

Last, the FAA should direct minimum performance standards according to the environment for the selection of airplanes. I would point out that the Metroliner-3 which is probably the largest number of airplanes in the commuter airline business today cannot match the engine out performance of the Rocky Mountain area.

Thank you, Mr. Chairman. I do appreciate it. I wish more of the colleges and universities were here today, because it has been an enormous learning experience for me.

Mr. MINETA. Thank you very much.

Professor, we have a call at the House right now, and we have about 8 minutes left on the call, so I think we better go over and respond to that and then come back for the questions.

[Recess taken.]

Mr. MINETA. The subcommittee will reconvene.

Professor, you recommend that the FAA get back into the business of monitoring and supervising all the written examinations

and conducting flight checks for all certifications and ratings. I wonder if you could elaborate on why the FAA should get back into this and how the problems associated with the FAA stepping back from this activity have manifested themselves.

Mr. ROURKE. Yes, sir. Let me address first the flight checks.

When I got my flight check after retiring from the military, I had to call the FAA office in Long Beach and make an appointment, bring my own airplane up to Long Beach Airport, meet with the inspector who was an FAA employee, find an open area at his direction in order to do what he considered to be necessary, and then return him again to Long Beach for the debriefing.

It was a most thorough check ride.

Subsequent to that as a civilian pilot, I finally decided to get a CFI. I had been a military flight instructor for years and thought this would be a piece of cake. I went into a local designated examiner from the Denver area who was a retired Air Force officer, and I got an equally thorough check ride from him.

But in the conversation that evolved, he told me how infrequently he was called and pretty much dropped it at that.

With as many students as I run into in a given year in the Denver area, I had occasion to ask a number of them if this gentleman were pointed out to you as a check pilot would you call him for a check ride, and they all universally said no way. He is a hard-nosed old son of a gun, et cetera.

Well, I can tell you that the only thing that man required of anybody was the knowledge and skills that were required of him to check in the designated flight check guide. Now, that leads me to wonder what it is that these people are doing to pass their check rides if they find him to be unacceptable.

So, I checked into that.

I think it is understandable if you take an imaginary pilot over here, and let's say it is he, and he is a hard nose. You come in for a check ride. He takes you out on a flight and says I want you to do an approach turn stall. You do it, and then you have two subsequent induced stalls because of a rather awkward recovery effort that you put in.

He gets back on the ground, giving you a pink slip, and says I particularly liked the way you recovered from that third stall. You did it at least 600 feet from the ground, but I really think you need to go back and practice approach turn stalls, because if this had been done at 200 or 300 feet where they typically occur, you are going to kill yourself.

So, the young man, having paid his money up front, departs. Now, do you think he is going to call that person again for a recheck?

So, he asks around to his cronies and they say take old man Rourke and get him. I take the man out and say let's fly up to Cheyenne; we will have a cup of coffee. So, you do straight and level flying, and you have a generalized conversation enroute. You get up to Cheyenne, you have a cup of coffee and a little bit more conversation, and you fly back.

Now, look, I have given him a 3-hour check ride. It has been totally meaningless.

I think that demonstrates the economic disincentive in a slowly spiraling downhill move to mediocrity using the designated examiner approach.

Similarly, where all the written exams were given in an FAA office supervised by FAA employees—and there were varieties of them. You might get form 1; somebody else might get form 6. At least you had to take one of the commercial review examination books and read all 100 or 200 or 300 questions.

Well, even if that is all the study that somebody got, that is a lot more than what they are getting now in the typical school which teaches a subject to the examinations that are known to be given.

Mr. MINETA. Given the pressures you were talking about earlier about the monies that are being sapped because of the air traffic control system, I wonder if the FAA were to get back into this business here instead of having the designee system whether or not, they wouldn't be even more financially strapped.

Mr. ROURKE. I am sure they would be more financially strapped. That is why I suggested additionally I think they have to be separated from the ATC function.

Mr. MINETA. Now, the FAA Administrator in his testimony states that the average amount of time of the pilots involved in recent commuter accidents was some 7,700 total hours and close to 1,100 hours for time in type. The Administrator's implication is that this does not indicate inexperience.

How do these amounts strike you?

Mr. ROURKE. I did hear those numbers, and I was astounded to hear them. In fact, I wrote them down when his assistant went through the actual numbers.

I simply cannot match those with the reality of, let's say, Mr. Lauber's testimony about the woman in, I think it was, AVAir. Somehow or other, they don't match.

I don't question his numbers. I am sure they are validly given. I cannot——

Mr. MINETA. That was the Henson Aviation accident in the Shenandoah he was referring to.

Mr. ROURKE. Yes.

Mr. MINETA. What would you recommend with respect to improved training regulations and requirements as it relates to the differentiation right now between the part 135 and the part 121 carriers? Do you think they should be equalized in terms of the hours and flight and duty time regulations and the other requirements?

Mr. ROURKE. I think the duty time regulations, at minimum, as I think stated by the ALPA reps, should be equated. If anything, I would invert them. The numbers of landings and takeoffs that the commuter airline pilot is exposed to in his normal duty day far exceed those in the large commercial airliner operation. The stresses are much greater, and I should think the duty times, correspondingly, should be reduced.

So, if anything, I would invert them, but, at minimum, I would equate them.

As far as training goes, it would seem to me——

Mr. MINETA. You say invert them, meaning?

Mr. ROURKE. Meaning that the current FAA requirements for part 121 flyers are more appropriate for part 135 flyers, and the higher allowed hours of flight time daily, monthly, and annually for the 135 pilots should be reduced to those of what the 121 pilots are now.

Training requirements, I should think, should be significantly increased for the Part 135 entry pilot. That is going to be a substantive problem.

The airlines that operate at the commuter end of the scale operate on a much narrower profit margin. Their bottom line raised a little bit will put some of those companies out of business.

I think the public interest would say if you can't stand the heat, get out of the kitchen.

Mr. MINETA. Well, Professor, I thank you very much for your forbearance and your very fine testimony. We appreciate it very much.

Mr. ROURKE. My thanks to you, sir. It has been quite a learning experience.

Mr. MINETA. Good. Come back and learn some more. We have learned a lot from you.

[The prepared testimony of Mr. Rourke follows:]

Statement of William B. Rourke Jr., Professor, Aerospace Science, Metropolitan State College; President, Sigma Systems, April 19, 1988

Mr. Chairman, members of the committee:

I am concerned as a flight and ground instructor that my students be well prepared for the responsibility of commercial flying. An airline pilot will be responsible for more lives in his first year of commercial flying than a brain surgeon will be in his entire adult life.

My college and others like it are now the primary source of airline pilots. That should give you pause for consideration, because education is the only industry where we practice on the finished product.

For the first seventy five years of aviation an incomparable military training program supplied virtually all of the pilot needs of commercial aviation.

When the Viet-nam War ended, the input of students to military flight training was cut in half. At the same time the obligation of those pilots completing military flight training to serve on active duty was increased from four to seven years. Today a military pilot is nearly thirty years old when he first has the opportunity to resign his commission and apply to an airline for flying employment. Age thirty was the industry standard maximum age for initial hiring. Some airlines now hire fifty year old military pilots if they were flying the right aircraft. For example, an Air Force pilot of a KC-10 need only learn how to be civil to fly the DC-10- it is painted differently. The fact that an airline will hire an "old timer" shows how valuable the airlines view military training and experience, and how critical the shortage of pilots has become. The military pilot has also completed nearly ten years of active duty - one-half that service needed to retire. My oldest son faced just such a decision, but found his training and experience were very much sought after. Nonetheless, the impact of reduced input and extended obligated service on reducing the number of military trained pilots available for airline flying has been profound.

Concurrently, the airlines are losing their experienced pilots at a phenomenal rate. The FAA has regulated a mandatory retirement at age sixty. That regulation may still be challenged intellectually, but it has been challenged as a matter of law to, and upheld by, the Supreme Court. The 1978 Airline Deregulation Act created a market place environment which stimulated a competitive climate that resulted in reduced airline travel costs. The deregulation experiment certainly proved the existence of demand elasticity, and it created explosive growth in air travel. Each airplane requires two or three Airline Transport Pilots. The 1978 Airline Deregulation Act also created

a whole new level of air service - the Commuter Airline - and with it the requirement for another whole group of Airline Transport Pilots. Concurrently natural population and economic growth in this decade further expanded the demand for air transportation and its absolute requirement for more Airline Transport Pilots. The airplane is unquestionably the travel mode of choice for intercity movement.

I am also concerned as a passenger that the pilot up front is well prepared for commercial flying. On my way to Washington for this hearing, I stopped by the front end to see if any of my students were crewing the flight. That is an added pleasure of flying that I enjoy. I am however aware that someday I will see a student up front that will cause me to take another flight. There are hazards in every business.

It is important to note here what the progression of movement is for a pilot entering commercial aviation from a civilian program. From student pilot, to flight instructor, to commuter/charter/air taxi pilot is the usual employment picture to become eligible for hiring by a major/national air carrier. It is a process of building flying time, which is equated to experience. Note how soon and at what a low level of experience the fledgling pilot is thrust into responsible activity.

Upon graduation, the student has an FAA Commercial Pilot Certificate with an Instrument Rating. He is now legally able to fly in the least regulated of all aviation environments, under Federal Aviation Regulation (FAR), Part 91. He has about 350 hours of flying time and the NTSB will verify that a pilot with from 100 to 600 flying hours is the most dangerous animal to strap on an airplane.

After graduation the pilot must find a way to build up flying time for initial hiring. The most frequently used method of initially getting that flying time is to become a Certified Flight Instructor (CFI). It is an economic reality that someone else pays for the flight time of a CFI. It is also an economic reality that the incentive for an inexperienced pilot to seek the CFI status is to get someone else to pay for his flying time. Knowing this helps to understand why there are so many flight instructors fighting for a relatively few students in an absurdly competitive environment. It does however raise the question of who is teaching who. Can you even imagine a medical school with a teaching faculty made up of those who just graduated.

When the pilot reaches a level of about 750 flight hours he is eligible for initial hiring by a Commuter Airline and that is one of the problems we address today. The pilot's experience is limited to basic syllabus maneuvers around the local airport. Nonetheless, as soon as the pilot gets about 1000 flight hours he is eligible for initial hiring by a national/major air carrier

and he is gone. The turnover in the commuter airline that such a progression creates is another problem we address today.

Incidental to this discussion is a little discussed demographic change of some significance. Women are entering the piloting profession in great numbers, and they are good. Flying is a high performance skill accompanied by significant ego involvement, but there seems to be much more in the male than in the female. As my daughter found out, not all males can stand the competition. Be that as it may, by the turn of the century it may be necessary to rename the front end of the airplane.

Is the inexperience of pilots in the Commuter Airline industry detrimental? There were 21 accidents involving scheduled 14 CFR 135 (Commuter Airline) operations in 1985 compared to 22 for 14 CFR 121, 125 and 127 (Large Commercial Air Carriers). The 1985 Commuter Airline Accident Rate of 1.209 accidents per 100,000 flight hours was nearly 5 times greater than the 0.265 accidents per 100,000 flight hours of the large commercial airlines. The 1985 Commuter Airline Fatal Accident Rate of 0.403 fatal accidents per 100,000 flight hours was also nearly 5 times the 0.084 fatal accidents per 100,000 flight hours of the large commercial airlines, which themselves experienced the worst fatal accident rate in eleven years. Is a passenger from Alamosa, Colorado going to Honolulu, Hawaii expected to accept a 5 times greater risk going from Alamosa to Denver than from Denver to Honolulu?

What are the causal factors involved in Commuter Airline accidents as compared to large commercial airlines?

Cause	Commuter	Large Commercial
In flight encounter with weather	3	5
Fire	1	
Loss of power	1	3
Engine tearaway	1	
Loss of power non-mechanical	4	1
Mechanical failure/malfunction	2	4
Loss of control in flight		3
Near collision between aircraft		1
In flight collision with object	2	1
In flight collision with terrain	2	1
Undershoot approach		1
On the ground collision with object	1	
Gear collapsed	1	
Gear collapsed or not extended	1	
Loss of control on ground	1	1
Miscellaneous/other	1	1

They are more the result of human fault than mechanical failure. Considering that, then the mandate of the Cockpit Voice

Recorder (CVR) would seem to be a worthy requirement. However, the CVR's an after the fact investigation tool, not an accident prevention item in any direct sense. On the other hand, a Ground Proximity Warning System (GPWS) is a before the fact item, but only in the last instant sense of announcing the disaster. Since ten of the twenty-one accidents occurred in the approach phase of flight, a GPWS might have saved the flights. On the other hand, a pilot's awareness of exactly where he is will preclude hitting anything. The sense of responsibility that assures such responsible action comes from exacting training and extensive experience. When the pilot is cited as a cause in 18 of the 21 accidents, and a cause or a factor (or both) in 20 of the 21 accidents, training should be viewed in great detail.

A recent survey by the Rocky Mountain News of Commuter Airline's accidents in Oregon, Montana, Wyoming, Nebraska, Colorado showed that Colorado has more because of Denver's Stapleton air center. A more important point was made that mountain terrain challenges the pilot's skill and knowledge and the weather as influenced by those mountains elevates the challenge significantly. Add to it the fact that commuter airline operations are short haul flights with many landings and takeoffs and you have the highest of risk environments being flown in by the lowest experience pilots. An interesting review of Trans-Colorado flight operations from it's 1980 beginning shows a sequence of events that should have alert and alarm capability for the least sophisticated observer.

Consider some recent facts. The FAA used to monitor all written examinations. It does not do so today. The FAA used to do each flight check. It does not do so today. The FAA does approve an FAR, Part 141, Flight School's syllabus initially, but does not return to see what is actually being taught. Quality control in flight training is non-existent and it is showing. As money has migrated to the ever more expensive Air Traffic Control (ATC), a corresponding decrease in virtually every other FAA activity has resulted. It would be a significant improvement to get the FAA back into the role it was created for 50 years ago. (examples)

Training is essential. A Commuter Airline could use its revenue airplanes to train pilots but that has been shown to be counter- productive. Simulators are a necessity, but how many commuter's training departments have the budget for some. Training by such companies as Flight Safety International is superior, but it too is costly. But should it be made a condition of doing business?

Lastly, let me suggest that airplanes should be chosen with some consideration for the environment. Pressurization is much less vital to safe operations than single engine service ceiling. A Business and Commercial Aviation, Planning and

Purchasing issue lists 30 commuter aircraft. Only 6 of those listed can sustain flight above 16,000 feet altitude with one engine out. Many of the routes across the Rocky Mountains from Denver to the ski centers have Minimum Enroute Altitudes of 16,000 feet. Our Aspen/United Express operates BAe-146 and Convair 580 aircraft, both of which match the altitude minimums. Many airplanes that are being used in designated mountainous areas cannot. Some of the listed airplanes could not get high enough to enter the traffic pattern at Stapleton Airport with one engine inoperative. Some will say that the PT-6 turbine engine is so reliable that it is not necessary to consider such a restriction. The DH-8 that crash landed in Seattle Tacoma Saturday proves otherwise. In the aviation business it is always necessary to ask, "What are the consequences" of what I do. When the consequences are the very high visibility deaths in a dramatic air crash the test of cost effectiveness pales.

My suggestions are to return pilot training quality control by:

1. FAA monitoring/supervision of all written examinations
2. FAA employee flight checks for all certifications/ratings
3. FAA periodic checks of classroom instruction

and to reestablish the CAA/FAA statutory charter to assure a safe air transportation system by:

4. FAA monitored flight operations
5. FAA Inspector General Telephone Hotline
6. FAA directed minimum performance standards for aircraft based on intended operations and operating environment

Mr. MINETA. If there is no further business before the subcommittee, the subcommittee stands adjourned.

[Whereupon, at 6:54 p.m., the subcommittee adjourned, to reconvene subject to the call of the Chair.]

Wetterau Incorporated

21 April 1988

Congressman Norman Y. Mineta
2350 Rayburn Bldg
Washington D. C. 20515

Dear Congressman Mineta;

I watched much of your committee's recent hearings on cable television concerning safety of commuter airlines. I did not get to see it all, and perhaps I missed something, but it seemed to me that the FAA totally missed the point as to at least one of the major problems with the commuters. I am the chief pilot of my company with over 18,000 flying hours. We operate a Falcon 50 trijet now and I employ as one of my captains, a former TWA Express captain. TWA Express is a commuter operating out of St. Louis. My thoughts are as follows.

The major problem with the commuters is the combination of factors which individually may not have a great impact, but in their additive form, set the scene for potential disaster. Let me suggest a few.

1. The commuters normally fly short legs which means,
   A. the aircraft are normally flying in the weather, not on top of it.
   B. their lower cruising altitudes mean they are not always in radar contact with ATC and hence must rely solely on their airbourne radar in a thunderstorm environment.
   C. they are in potential icing and the worst area for turbulence in the winter months.
   D. when there is bad weather in the area, they stay in it all day.
   E. they make more landings per hour than their larger counterparts. Whereas enrounte flying is the least taxing on the crew, landings and takeoffs are the most taxing.
2. The equipment on the commuters is usually the minimum required by regulation which means,
   A. many airplanes do not have autopilots and that adds considerably to the cockpit workload.
   B. many of the cockpits are noisy, all the crews do not always have head sets withwhich to work.
   C most of the modern refinements which we have in the corporate world are not found in the commuter cockpit, such as area nav systems, DME hold, flight directors, ground prox systems, flight profile systems and the like.
3. The commuters also fly from the major hub airport to smaller airports which provide many additional challenges, such as,
   A. shorter runways

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B. a lesser choice of runways which means more cross wind landings.

C. minimum weather reporting facilities, no wind shear information

D. operating at airports without control towers which adds an additional burden of seeing and being seen.

F. operating at smaller airports where the experience level of all the pilots in lower than at the major city airports.

G. operating off runways that do not always drain the rain properly and which are not always properly cleared of snow.

Into this environment you place a cockpit crew which has generally less experience than their big airplane counterparts, and you have a formula for disaster. It was interesting to me that the FAA said that the crews involved in recent commuter accidents averaged over 7000 hours. To me, proving that all the factors I have mentioned stack the cards against even the most experienced pilots.

Which pilot do you think has the easiest job? The 747 captain who picks up is airplane in LAX with a canned flight plan, 3 INS systems, an autopilot, flight directors et al, climbs to 37,000 feet flys six and a half hours to JFK, makes a coupled approach to 200 and ½ and calls it a day, or the Metro Four Captain who flys the same six and one half hours leaving BOS with stops at ORH, ALB, SYR, BFD, ABE, and PHL. The entire trip is made in the clouds, he shot three of the five approaches to minimums, it was icing in central New York State and slick on the runway at BFD. He did it all without a flight director, without an autopilot, without a radar altimeter, and its going to be the same weather tomorrow. Who I wonder should really have the bigger stock portfolio?

So these are some of the problems I see, but what solutions? I feel the rules of the road should be modified,decrease the allowable flight time for the commuter crews, perhaps factoring in the number of landings they make as well. Require that all commuters have operable autopilots with approach couplers. Require at least one flight director. Establish a maximum cockpit db level above which headsets would be mandatory. Study additional ways to make things easier for those who now work harder. Only by reducing the load of the commuter crew member can you make them more effective. That requires better equipment, better proceedures, better working environment.

I appreciate the opportunity to express my views and extend my thanks for the continued work of the Aviation Subcommittee.

Sincerely,

Joe Lintzenich
Vice President Air Transporation

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May 6, 1988

The Honorable Norman Y. Mineta
U.S. House of Representatives
Room 2350
Rayburn House Office Building
Washington, D.C. 20515-0513

Dear Mr. Chairman:

During the recent Aviation Subcommittee hearing concerning commuter airline safety, you asked the ATA witnesses to provide information for the record concerning the extent of major carrier involvement in the safety operations of their commuter partners.

Major airlines that have code-sharing relationships with commuter airlines apply the well-known principle that the certificate holder is responsible for the safety of its operations. This principle means that the commuter airline, whether it holds an air carrier operating certificate that the Federal Aviation Administration has issued to it under Part 135 or Part 121 of the Federal Aviation Regulations, is responsible for its maintenance and operational practices. The exercise of the certificate holder's responsibilities is subject to pervasive governmental scrutiny. The FAA establishes maintenance and operational requirements for certificate holders, and enforces those requirements.

A major airline will take certain steps before it enters into a code-sharing arrangement with a commuter airline. It will confirm that the commuter airline holds an appropriate operating certificate. The major airline will also inquire about the reputation of the commuter airline and its regulatory compliance disposition. The latter inquiry typically involves examining any National Transportation Safety Board reports concerning the commuter airline and determining if the FAA has initiated any enforcement actions against it. In addition, two ATA members review the maintenance records of prospective code-sharing partners.

With respect to the establishment of and compliance with safety standards, the governmental regulatory process is the basic guarantor of safety. The FAA has the responsibility

under sections 604 and 609 of the Federal Aviation Act to oversee air carrier operations. The regulatory process that it has created provides the structure in which to establish and revise air carrier maintenance and operational requirements. Moreover, the FAA has the expertise to perform its regulatory role.

Major airlines require that their code-sharing partners abide by all applicable FAA rules and regulations. They rely upon the FAA's enforcement program to assure that compliance. In addition, several major airlines perform periodic audits of their code-sharing partners and indicate practices that they believe should be modified. Some major airlines require their code-sharing partner to notify them of any significant safety-related regulatory actions affecting the commuter airline. Moreover, some marketing agreements impose additional operational requirements on the code-sharing partner. Examples of such requirements are minimum aircraft size, and enhanced first-officer qualifications and minimum equipment lists. Finally, major airlines occasionally have provided technical assistance to code-sharing partners in response to particular operational problems.

We believe that the regulatory process both clearly assigns safety responsibilities and provides the means to identify and correct safety problems. To the extent that competent authorities determine that additional requirements should be imposed upon commuter airline operations, that is the process that should be used to do so.

Sincerely,

Bill

William J. Burhop
Senior Vice President,
Government Affairs

RAA BULLETIN

Reference: Operations Initiatives Date: 3/1/88 Number: 9

RAA OPERATIONS INITIATIVES

After recording record-low numbers of accidents and accident rates in calendar year 1986, regional airlines, last year had the highest number of fatal accidents since 1979 and the highest number of total accidents since 1980. While there may be many contributing causes for the increased accident rate in 1987, a review of the preliminary information for 9 fatal accidents indicates they can be loosely grouped into the following categories:

Controlled flight into terrain	- 2
Mechanical	- 1
Crew Related	- 5
Management/Crew related	- 1

As a result of the 1987 record, the RAA staff proposed to the Board of Directors that the following operations initiatives be sent to all RAA member airlines for their consideration. The Board concurred with the proposal and the RAA, therefore strongly recommends that each member airline adopt and implement the following operations initiative plan without delay.

Operations Initiatives

1. Pilot Awareness
   The Director of Operations meet with all pilots to discuss and heighten pilot awareness for increasing professionalism, crew coordination, standardization, altitute awareness (call outs), monitored approaches (IFR and VFR), decision making and fitness to fly. Management support for conducting all operations to the highest level of safety should be stressed. In addition, solicit feedback from the pilot group on changes that may improve safety.

2. Check Airmen/Flight Instructors
   CEO and Director of Operations meet with all check airmen and flight instructors and emphasize the need and support for requiring the highest standards of performance, adherence to standardized procedures and crew coordination during all flight instruction and instrument/competency/ proficiency/line checks.

Regional Airline Association
1101 Connecticut Avenue, N.W.
Washington, D.C. 20036
Telephone: 202 857-1170
ARINC "WASRAXD"

3. Pilot Pairings/Rotating Flight Segments
a. To the extent possible, develop policies and procedures to implement the scheduling recommendations in air carrier operations Bulletin (ACOB) Number 8-88-1 for Part 121 operations and Number 87-2 for Part 135 operations.

b. Implement a firm company policy that: (1) the PIC make all takeoffs when the weather conditions require the use of lower than standard takeoff minimums; (2) the PIC make all landings when adverse or marginal weather conditions exist.

4. Line Check
a. Implement a policy that all line checks (121 and 135) be given during revenue flights and develop specific maneuvers/ procedures that will be graded on all line checks.

b. Implement a special one time line check program to observe each PIC flying a minimum of one revenue flight segment. This program should be accomplished during the next 6 months by line check airmen.

5. Second-In-Command Initial Operating Experience

Implement a program requiring Part 135 SIC's to obtain initial operating experience in the right seat of the airplane with a check airman in the left seat. The program should parallel the IOE requirement for SIC's under Part 121. For Part 121 operators, require SIC's to complete IOE by performing the duties of an SIC in the right seat under the supervision of a check airman in the left seat.

Attached are copies of the aforementioned ACOB's, a sample line check form, and an FAA telegraphic notice concerning check airmen.

Should any member air carrier encounter difficulty getting additional line or IOE check airman approved to accomplish these initiatives, please call the RAA at (202) 857-1170.

AIR CARRIER OPERATIONS BULLETIN PART 135 NO. 87-2 — COMMUTER FLIGHTCREW SCHEDULING (NTSB SAFETY RECOMMENDATION A-86-107).

a. As a result of the investigation of three commuter accidents by the National Transportation Safety Board, they have concluded that the lack of pilot experience in the respective pilot positions in the cockpit was a contributing cause in all of these accidents. The Board has stated that the current era of rapid pilot turnover and the hiring of less experienced pilots in the commuter industry has created a problem related to inexperience. They believe that a solution would be to request commuter airlines to schedule flightcrews so that inexperienced captains are teamed with experienced first officers, and that inexperienced first officers only be scheduled to fly with senior captains.

b. The Board has recommended that the FAA direct all principal operations inspectors to caution commuter air carrier operators that have an instrument flight rule authorization not to schedule flight crewmembers with limited experience in their respective positions on the same flight.

c. We are aware that experience is a factor to consider in crew scheduling and consideration should be given by the carrier to the merit of this recommendation. Although compliance with this recommendation by the carrier would be voluntary since no regulatory requirement exists, we agree that from a safety standpoint, it would provide a higher level of safety.

d. Therefore, principal operations inspectors should contact their assigned commuter air carriers that have instrument authorization on their operations specifications and review this recommendation with the carrier. They should also encourage them to schedule flightcrews accordingly.

Attachment A

ACTION: AIR CARRIER OPERATIONS BULLETIN NO. 8-88-1, FLIGHT CREWMEMBER EXPERIENCE AND SCHEDULING

Manager, Air Transportation Division, AFS-200

All Regional Flight Standards Division Managers

Please ensure that all Part 121 principal operations inspectors receive the information and instructions contained in Air Carrier Operations Bulletin (ACOB) No. 8-88-1 which follows:

ACOB No. 8-88-1

Recently, the FAA issued ACOB Part 135, No. 87-2 (Commuter Flightcrew Scheduling) concerning the scheduling of inexperienced flight crewmembers in commuter operations. This ACOB was issued as a result of the National Transportation Safety Board's (NTSB) investigation of three commuter accidents and a subsequent NTSB safety recommendation. Changes in the air transportation industry and a recent air carrier accident have raised questions concerning the experience levels of flight crewmembers in Federal Aviation Regulations (FAR) Part 121 operations, particularly in those instances when both the PIC and SIC are relatively inexperienced.

a. Although there is no regulatory requirement that an air carrier schedule an experienced flight crewmember with an inexperienced flight crewmember, we believe that, from a safety standpoint, it would provide for a higher level of safety to do so. We realize, of course, that in some cases it may not be practical nor possible to do so. For example, a newly certificated air carrier may consist of flight crewmembers who are all new to both Part 121 operations and to the type of airplane they are operating. Also, an air carrier may initiate a new type of operation (e.g., long-range international operations) in which the flight crewmembers may be experienced on the type of airplane but have little or no experience in the type of operation.

b. POI's are requested to bring this matter to the attention of his/her certificate holder(s) and request that the certificate holder develop policies and procedures in the following areas:

(1) To the extent possible, minimum experience levels should be established for each pilot flight crewmember when pairing those pilots for scheduling purposes. If one pilot has less than 100 pilot hours in the type airplane, then the other pilot should have more than 100 pilot hours in type. This policy should include the scheduling of pilots upgrading or transitioning to a new type of airplane or pilots transitioning to a new type of operation.

(2) When an upgrading or transitioning PIC has less than 100 pilot hours as PIC in the type airplane (which would include the "high minimum" PIC specified in FAR Section 121.652), then the PIC should make all takeoffs and landings unless the PIC determines, for safety reasons, that the SIC should accomplish the maneuver (e.g., a

circling approach to the right, an ill/incapacitated PIC, or operating procedures which, at established weather minimums, call for the pilot not flying to become the pilot flying the airplane from minimums through the landing roll).

(3) When an SIC has less than 100 pilot hours in the type airplane, certain takeoff and landing restrictions should be applied to the SIC. The PIC should make the takeoff anytime the weather minimums are less than the standard weather minimums specified in paragraph 21a of the standard operations specifications. That is, when the visibility is less than 1 mile in the case of two-engine airplanes or less than 1/2 mile for three-and four-engine airplanes. In the case of landings, the higher minimums prescribed in FAR Section 121.652(a) for PIC's should also be applied to the SIC. That is, the SIC should not make landings when the weather minimums are less than the higher minimums specified in FAR Section 121.652(a) until the SIC has 100 pilot hours in the type airplane.

(4) A certificate holder should not authorize Category II and III minimums for a particular operation unless, in addition to other crew qualification requirements (e.g., the PIC requirements specified in the Category II and III operations specifications), the SIC has 100 or more pilot hours in the type airplane.

c. An action notice will soon be issued which will contain guidance concerning the FAA's follow-up of each certificate holder's actions concerning the foregoing.

979.-1000. RESERVED.

AIRMAN COMPETENCY/LINE CHECK

Flight Number	Name of Pilot-in-Command	OBS	Name of Second-in-Command	OBS

Type Aircraft	N-Number	Date	From	To	Flight Time

FLIGHT CHECK ACCOMPLISHED	TYPE OF CHECK
☐ Base Month ☐ Month Early ☐ Grace Month ☐ New Base Month	FAR 135.299 / 121.440 ☐ Company Evaluation ☐

NA—NOT APPLICABLE

PREFLIGHT				APPROACH AND LANDING (CONT.)			
			1. Crew Briefing				29. Type of Approach IFR ☐ VFR ☐ PIC ☐
			2. Weather Analysis				30. Landing PIC ☐
			3. Flight Planning				31. Missed Approach
			4. Notams	FLIGHT CREW			
			5. Take-Off Weight and Balance Data				32. License and Physicals
			6. Dispatch Release				33. Cockpit Vigilance
			7. Fuel Quantity				34. Crew Coordination
			8. Pilot Preflight Inspection				35. Use of Oxygen/Preflight of Mask
			9. Aircraft Logbook Inspection				36. Judgement
DEPARTURE							37. Flight Management
			10. Starting Procedure				38. Handling of Emergencies
			11. Take-Off Gross Weight Compliance				39. Aircraft Discrepancies Logged
			12. Run-Up				40. Compliance with A/C Limitations
			13. Clearance Record and Readback				41. Use of Checklists
			14. V_1, V and V_2 Compliance				42. Noise Abatement Procedures
			15. Take-Off IFR ☐ VFR ☐ PIC ☐				43. S.O.P. Compliance
			16. Departure Clearance/SID Compliance	AIRPORTS			
			17. Altitude Awareness—Climb				44. Refueling of Aircraft
ENROUTE							45.
			18. MEA Compliance	OTHER			
			19. Use of Airborne Radar				46. Aircraft and Operations Manuals
			20. Adherence to Clearance				47.
			21. Altitude Awareness—Cruise				48.
			22. Use of Navaid Facilities	121.440/135.299 Line Check expires_____ (12 months)_____			
			23. Altitude Awareness—Descent				
			24. Holding Procedure				
APPROACH AND LANDING							
			25. Aircraft Configuration				
			26. Airspeed Control				
			27. Gross Weight Compliance				
			28. Altitude Awareness				

(Corrective action taken or Recommended on Back)

Result of Check: Satisfactory ☐ Unsatisfactory ☐

Name of Check Airman	Signature of Check Airman

RETURN THIS COPY
TO: AFS-5

TELEGRAPHIC MESSAGE

NAME OF AGENCY	PRECEDENCE	SECURITY CLASSIFICATION
FEDERAL AVIATION ADMINISTRATION (AFS-200) 800 INDEPENDENCE AVENUE, SW WASHINGTON, DC 20591	ROUTINE	
ACCOUNTING CLASSIFICATION	DATE PREPARED 11/13/85	FILE
FOR INFORMATION CALL		
NAME DAVID S. POTTER	PHONE NUMBER 426-3460	TYPE OF MESSAGE ☐ SINGLE ☐ BOOK ☒ MULTIPLE ADDRESS

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MESSAGE TO BE TRANSMITTED (Use double spacing and all capital letters)

TO: NOUS2 KWA 2/0711

GENOT KWA 5/202 SVC B

GG ALRGNS 200 ALACDOS ALFSDOS ALGADOS

NOTICE 8430.395 SUBJECT/TRAINING FOR CHECK AIRMEN AND INSTRUCTORS REQUIRED BY FAR SECTIONS 135.337 AND 135.339.

CNL 11/1/86

FOLLOWING ARE ACCEPTABLE CATEGORIES OF PART 135 PILOT CHECK AIRMEN. AN AIRMAN MEETING THE REQUIREMENTS MAY BE APPROVED IN ONE OR MORE CATEGORIES COLON

1. PROFICIENCY CHECK AIRMAN.

THESE CHECK AIRMEN MAY BE AUTHORIZED TO CONDUCT 135.293 COMPETENCY CHECKS COMMA 135.297 INSTRUMENT PROFICIENCY CHECKS COMMA 135.299 LINE CHECKS AND 135.244/INITIAL OPERATING EXPERIENCE/. THEY MUST MEET THE REQUIREMENTS OF 135.337/A/ AND 135.339 INCLUDING THE INFLIGHT TRAINING REQUIRED BY 135.339/C/.

2. PROFICIENCY CHECK AIRMEN/SIMULATOR ONLY/.

THESE CHECK AIRMEN ARE AUTHORIZED SOLELY TO CONDUCT THE APPROPRIATE PORTIONS OF 135.293 COMPETENCY CHECKS AND 135.297 INSTRUMENT

DATE TIME GROUP 21 Nov 85 07 15Z

SECURITY CLASSIFICATION

PAGE NO.	NO. OF PGS.
1	4

STANDARD FORM 14
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TELEGRAPHIC MESSAGE

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ACCOUNTING CLASSIFICATION	DATE PREPARED	FILE
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THIS SPACE FOR USE OF COMMUNICATION UNIT		

MESSAGE TO BE TRANSMITTED (Use double spacing and all capital letters)

TO:

HOUS2 KRWA _____

GENOT KWA _____ SVC B

GG ALRGNS 200 ALACDOS ALFSDOS ALGADOS

PROFICIENCY CHECKS IN A SIMULATOR. THEY MUST MEET THE REQUIREMENTS OF 135.337/A/ AND 135.339. THE INFLIGHT TRAINING REQUIRED BY 135.339/C/ AND THE FLIGHT TEST REQUIRED BY 135.303 MAY BE ACCOMPLISHED IN A SIMULATOR.

3. COMPETENCY CHECK AIRMEN.

THESE CHECK AIRMEN MAY BE AUTHORIZED TO CONDUCT 135.293 COMPETENCY CHECKS AND 135.299 LINE CHECKS. THEY MUST MEET THE REQUIREMENTS OF 135.337/A/ AND 135.339 INCLUDING THE INFLIGHT TRAINING REQUIRED BY FAR 135.339/C/.

4. LINE CHECK ONLY CHECK AIRMEN.

THESE CHECK AIRMEN ARE AUTHORIZED SOLELY TO CONDUCT THOSE LINE CHECKS REQUIRED BY 135.299. THEY MUST MEET THE REQUIREMENTS OF 135.337/A/ AND 135.339. THE INFLIGHT TRAINING REQUIRED BY 135.339/C/ MAY BE ACCOMPLISHED IN A SIMULATOR.

SECURITY CLASSIFICATION		
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2	4	

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REVISED 11-68
GSA FPMR 101-11.205

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TO:

NOUS2 KWA _____

GENOT KWA _____ SVC B

GG ALRGNS 200 ALACDOS ALFSDOS ALGADOS

5. INITIAL OPERATING EXPERIENCE/IOE/CHECK AIRMEN.

THESE CHECK AIRMEN ARE AUTHORIZED TO CONDUCT 135.244 IOE. SINCE THEY ARE IN COMMAND OF THE AIRCRAFT AND OCCUPY THE RIGHT SEAT WHILE INITIAL/TRANSITION/UPGRADE PILOTS IN COMMAND MEET THE REQUIREMENTS OF 135.244 COMMA THESE CHECK AIRMEN MUST MEET THE REQUIREMENTS OF 135.337 AND 135.339 INCLUDING THE INFLIGHT TRAINING REQUIRED BY 135.339/C/. AS AN ALTERNATIVE TO THE INFLIGHT TRAINING COMMA THESE CHECK AIRMEN MAY SUBSTITUTE EXPERIENCE IN LINE OPERATIONS IN THE RIGHT SEAT WITH A QUALIFIED CHECK AIRMAN IN THE LEFT SEAT WHILE PERFORMING THE ACTUAL DUTIES OF AN IOE CHECK AIRMAN. THE OPERATOR/S APPROVED TRAINING PROGRAM SHOULD SPECIFY THE AMOUNT OF EXPERIENCE REQUIRED BUT SHOULD CONSIST OF AT LEAST FOUR FLIGHT HOURS AND TWO TAKEOFFS AND LANDINGS.

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GENOT KWA _____ SVC B

GG ALRGNS 200 ALACDOS ALFSDOS ALGADOS

FOLLOWING ARE ACCEPTABLE CATEGORIES OF FLIGHT INSTRU[illegible] COLON

1. FLIGHT INSTRUCTORS/SIMULATOR ONLY/

THESE INSTRUCTORS MAY BE AUTHORIZED TO CONDUCT THE APPROPRIATE PORTIONS OF PART 135 SUBPART H TRAINING IN A SIMULATOR ONLY. THEY MUST MEET THE REQUIREMENTS OF 135.337/B/.

2. FLIGHT INSTRUCTORS.

THESE INSTRUCTORS MAY BE AUTHORIZED TO CONDUCT ALL PART 135 SUBPART H FLIGHT TRAINING. THEY MUST MEET THE REQUIREMENTS OF 135.337 AND 135.339 INCLUDING THE INFLIGHT TRAINING REQUIRED BY 135.339/C/.

ORDER 8430.1D WILL BE REVISED TO INCORPORATE THE ABOVE.

s/ David R. Harrington
HARRINGTON ACTG. AFS/200

cc: AFS-200/260/5/AMS-420
AFS-260:POTTER:mlg:426-3460:11/13/85 (WP: GENTO, D1-MLG)
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U.S. Department of Transportation

News:

FOR RELEASE TUESDAY
March 8, 1988

FAA 16-88
Contact: Fred Farrar
Tel.: (202) 267-8521

FAA ORDERS SPECIAL INSPECTION OF COMMUTER AIRLINE INDUSTRY

FAA Administrator Allan McArtor announced today that he has ordered a special inspection of the nation's commuter airlines to determine their compliance with the agency's safety rules and regulations.

McArtor said the special inspection was prompted in large part by a series of commuter airline accidents in the last quarter of 1987 and so far in 1988.

"We want to know why the commuter safety record in recent months is running counter to the significant improvement trend which has been the hallmark of the industry during the 1980s," he added. "We want a return to the 1986 environment when commuters had the safest year in their history."

Secretary of Transportation Jim Burnley concurred with McArtor on the need for the special inspection.

"The commuter airlines are playing an increasingly important role in the air transportation system, and their passengers are entitled to the same safety assurances as those who fly with the major airlines," the Secretary said. "This inspection program will help ensure that they are."

The inspection is expected to last about a year and will be done in three phases. The first phase already is underway and involves an analysis of all relevant existing data on commuter airline safety to identify major problem areas. The findings will provide the focus for the follow-on inspection phase, which is scheduled to begin within 60 days. Certificate holders to be inspected will also be identified in phase one.

In the second phase, approximately 15 teams of seven inspectors each will visit the individual airlines. They will be looking at such areas as management, training programs, aircraft airworthiness, and recordkeeping. Approximately 20 percent of the 173 commuter airlines will receive a focused, in-depth inspection by one of these teams.

The agency expects to complete the inspection phase by the end of September. A final report then will be prepared in the third phase and the findings and recommendations provided to the FAA principal inspectors responsible for each of the affected airlines. They, in turn, will brief all the commuter carriers and work with them to correct any deficiencies identified in the report.

-more-

In the four-month period, November 1987 through February 1988, there were seven fatal commuter accidents nationwide resulting in 56 fatalities. In 1986, the commuter airlines had two fatal accidents and four fatalities.

####

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of Transportation
**Federal Aviation
Administration**
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